Curtiss FLY LEAF

Curtiss-Wright Corporation

presents the

CURTISS COMMANDO

Airline Transport

VOL. XXVII, NO. 5 NOVEMBER - DECEMBER 1944

IN THIS ISSUE

Vol. XXVII - No. 5 Nov. - Dec., 1944

Curtiss

FLY LEAF

A Fine Production Record

The following editorial, lauding Curtiss fighter planes, appeared in the New York Times on Nov. 24. It followed ceremonies at the Buffalo Airport Plant observing acceptance by the Army Air Forces of the 15,000th Curtiss fighter plane for service in World War II — an all-time high production record. High ranking airmen from the United States, Great Britain, Australia, New Zealand, South Africa and France attended.

★ ★ ★ ★

This week the Curtiss-Wright Corporation completed at Buffalo its 15,000th fighter plane for the United Nations — a total of more fighter aircraft than have been built for this war by any other manufacturer in the world. It was a Curtiss P-40 Warhawk that rolled off the assembly line to set the production mark, scion of a long line of P-40s which have been flown to glory on every front. Indeed, as it came hot from the production line its brothers were smashing Japanese troops and supply lines in the Philippines and China, just as the early P-40 Tomahawks, outnumbered but not outgamed, rose from the smoke of Pearl Harbor to meet the first enemy attack.

The 15,000th fighter, latest in a heritage of "Hawk" fighters and descendant of the P-36 which came from assembly in the early Thirties, rolled off the line wearing the insignia of all the twenty-eight different air forces in which fighter aircraft built by its manufacturer have served in this war. Below the sharp spinner of its propeller was painted the shark's mouth of the Flying Tigers, who made so brilliant a record in P-40 Tomahawks and Kittyhawks. It wore also little blazoned Axis flags; twenty and a half swastikas, representing the toll taken by Wing Comdr. Clive Caldwell of the Royal Australian Air Force, ranking P-40 ace in the North African-European theatre, and eighteen rising suns for the Japanese downed by Col. David Lee Hill of the Army Air Forces, leading flier of the type in the Far East.

Under every sky and against every enemy the P-40 has served gallantly in the cause of freedom.

Published bi-monthly at Buffalo, N. Y., by Public and Internal Relations Department of Curtiss-Wright Corporation, Airplane Division. A. D. PALMER, JR., *Director;* W. J. LYON, JR., *Editorial Director;* C. R. ABBEY, *Associate Editor;* PAUL KUNZ, *Art Director. Plant Representatives:* Jonathan D. Springer, Jr., *Kenmore, N. Y.;* Charles H. Augspurger, *Buffalo, N. Y.;* Ralph N. Swanson, *St. Louis, Mo.;* Wm. A. Maharry, *Columbus, Ohio;* W. B. Tischendorf, *Louisville, Kentucky.*

CW-20

TOMORROW'S AIRLINER TODAY

Biggest and fastest twin-engine transport in the world, the new, luxurious Curtiss Commando will go into airline service in 1945.

First of a series of transport and cargo airplanes, the Commando, which was "drafted" into military service three years ago just as it was about to make its debut as a luxury airliner, will include many innovations in airliner construction to assure greater comfort, safety, and economy of operation than has previously been achieved in transport airplanes.

Eastern Air Lines, one of the country's leaders in air transportation, has already contracted for the new Commandos to be used on its air routes. Eastern Air Lines serves the Atlantic coast from Boston to Florida, and extends as far west as St. Louis and Chicago.

Capt. E. V. Rickenbacker, president and general manager of Eastern, pointed out that his new medium-range Commando Silverliners are particularly well adapted to Eastern's frequent flight schedules. Eastern, for two years, has operated a fleet of Curtiss Commandos for the Air Transport Command.

The Commando is a low-midwing plane that carries from 36 to 42 passengers. The military version of the Commando — designated "C-46" by the Army and "R5C" by the Navy — is in service as a cargo plane all over the world.

George A. Page, Director of Engineering for the Airplane Division, designed the airplane, the prototype of which is still in use by the British Air Ministry.

Pilots' compartment in the new Commando has been designed to provide for ease in reaching controls. Compartment is well lighted to meet any conditions; visibility is greatly increased.

Greater Passenger Safety — A Pilot's Airplane

Pilots who have flown the Commando's service twin, the C-46, say it is a "pilot's airplane," and the designers of the new passenger liner have strived to maintain that opinion. The cockpit arrangement represents the combined thinking of leading pilots of the major U. S. airlines.

Designed to provide for ease in reaching controls, the pilots' compartment has seats for two pilots and "jump seat" facilities are provided for a third crew member. All controls are grouped forward, so pilots do not have to reach backward for them. The complex problem of cockpit illumination has been solved by a combination of incandescent light and "black light" of controlled intensity to provide any desired combination to suit existing conditions.

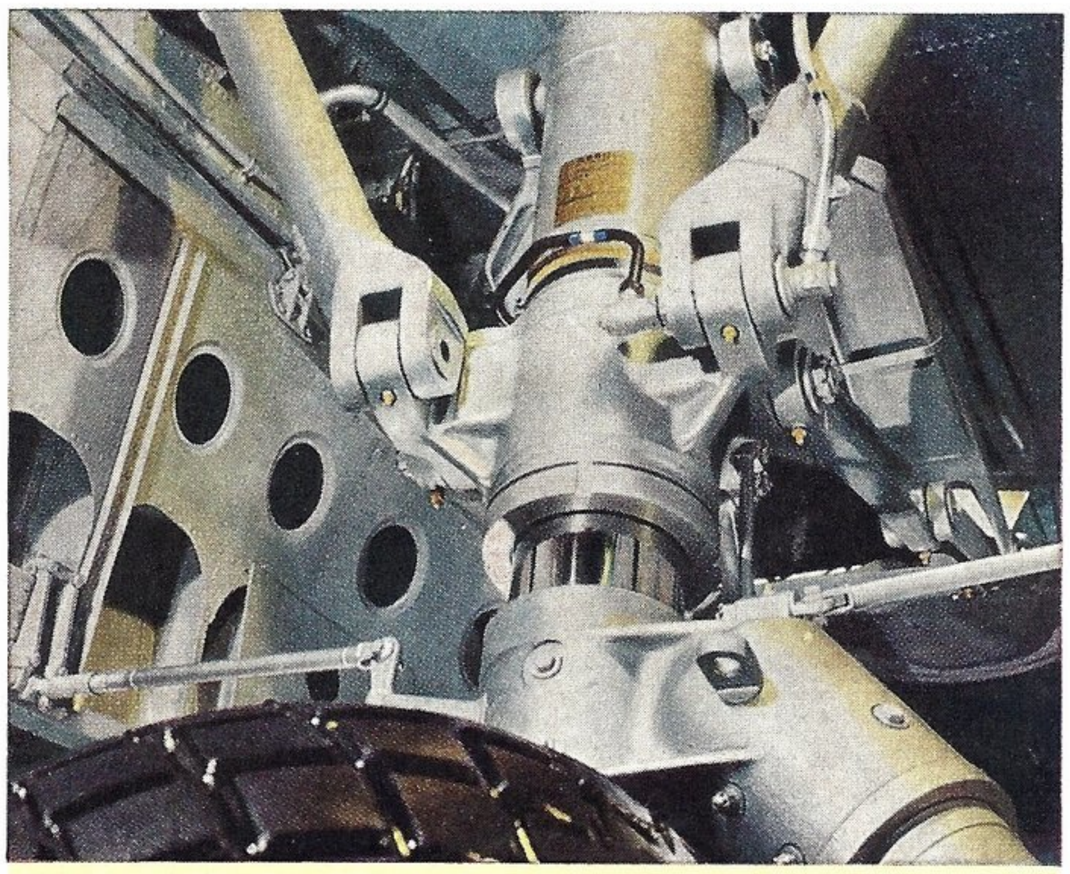
A recessed nose design provides greater visibility and improved de-icing for bad weather operation. The pilots' range of vision in landing operations is increased by deep side-view windows, and improved ground visibility in wet-weather flying is provided. Double-pane safety glass equipped with thermal de-icing insures clear vision in cold flying weather. A "bird proof" windshield, recommended to airplane builders by the Civil Aeronautics Administration, also has been incorporated into the new Commando.

A full-size mockup of the airplane fuselage was unveiled late in October at the St. Louis Plant with leading aviation writers and radio commentators from throughout the country present to view the first display of the cabin arrangements, and to see demonstrations of Commando equipment already incorporated into the military version of the airplane.

The luxury ship includes many features suggested by airline operators. Representatives of major U. S. airlines and many airline technicians from other countries have outlined what they believe should be incorporated in an airliner of medium range, such as the Commando.

The Commando enters airline service with many basic design changes. Among them are the all-welded, easily removable fuel tanks; more powerful engines; improved flight control; greater speed and increased gross weight and pay load. With its two twin-row Wright Cyclone 18-cylinder engines, the Commando has a normal takeoff gross weight of 48,000 pounds, a design useful load of 15,900 pounds and a cruising speed of 234 miles per hour at 60 per cent power at 10,000 feet.

Control of the plane in flight is improved through substituting — for hydraulic power boost — a combination of aerodynamic balance and spring tabs on the flight controls. All control surfaces are of metal construction, a definite im-



The rugged hydraulic landing gear that is used on the Curtiss Commando is illustrated in the photo above. The new plane is designed to assure greater comfort, greater safety and greater economy of operation

provement over the old practice of fabric-covering such surfaces.

Under the stress and strain of war, the Commando has been constantly improved. It is the result of the most exhaustive and relentless proving experience ever undergone by any airplane before its presentation to the public for commercial use. It makes up the bulk of the aerial fleet carrying gasoline, oil, men and munitions over the treacherous Hump of the Himalayas to Allied bases in China. Most of the fuel which supplies General Chennault's famed 14th Air Force and the B-29 Superfortresses of the 20th Air Force is transported by C-46s.

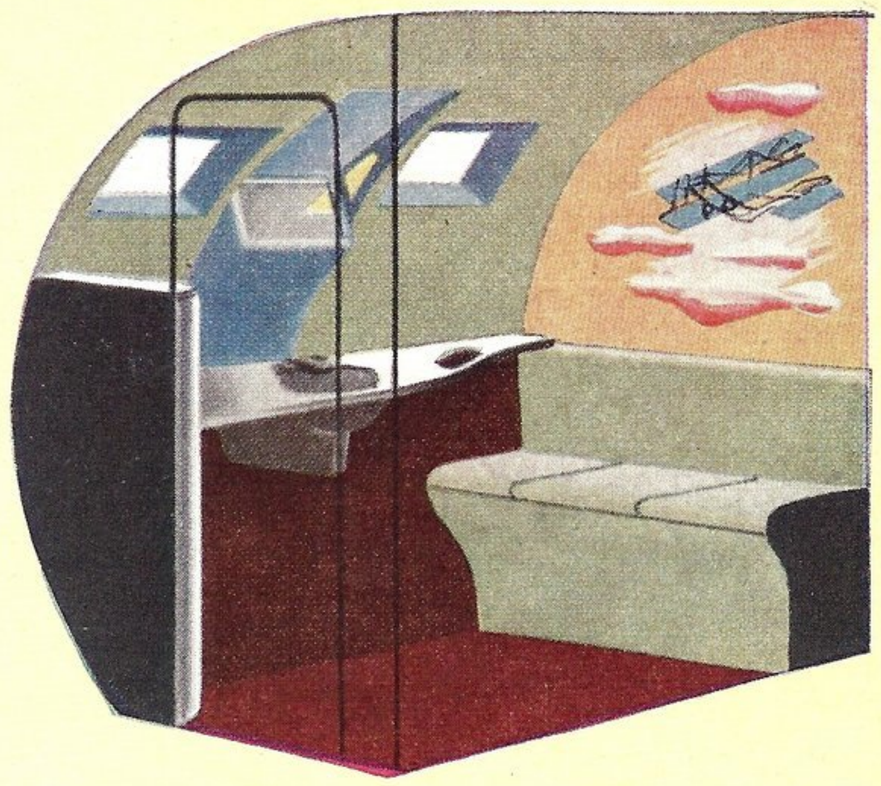
Among the many features in the new commercial Commando are a men's room and a ladies' powder room, the double provision being made in anticipation of almost equal air travel by men and women. There are two wide windows above the mirror on the boudoir table of the powder room and flanking the mirror above the wash basin in the men's room. Each of the rooms is equipped with a full-length mirror set in the door.

Included is a dressing table equipped with 110-volt outlet for electric razors or electrically-operated toilet articles; non-splash wash basin, towel rack, soap and cleansing tissue dispensers, waste containers, adjustable fresh-air vent, chemical toilet, and service call button.

Both the men's room and the ladies' powder room are done in rich colors and all provisions have been made to provide every convenience for the passenger while enroute from one city to another.

Aisle space in the cabin is so roomy that the air traveler on the Commando feels no sensation of confinement and is at liberty to walk from one end of the interior cabin to the other during flight without causing any annoyance to other passengers. Without any waste of space the passengers have the roomiest air transport ever designed for public comfort in the air. The overhead racks are installed so that they are not skimpy and make it possible for passengers to stow small packages and jackets without any jamming.

For the air traveler who wants elbow-room, the Commando has incorporated an advanced seating arrangement forseeing the needs of not only today but also tomorrow. Commando comfort has gone further toward passenger convenience than has been possible with any other design and every phase of this comfort has received thorough practical tests.



The ladies' powder room in the new Commando is decorated in delicate pastel shades designed to please women passengers. It is well-lighted, is provided with plenty of mirrors including a full-length mirror in the door.

Included in the men's room of the airplane is a 110-volt outlet for electric razors. The mirror is flanked by two windows, and the room also has a full-length mirror. It is lighted to suit the most critical passenger.

PASSENGER COMFORT

SOUND PROOFING

Passenger comfort has received prime attention in the engineering of the peace-time Commando.

One of the many outstanding features, and one that adds greatly to the comfort of the traveler, is the insulating and soundproofing installation.

Extraneous sound in the Commando is minimized by the soundproofing and as a result, the cabin of the luxury airliner becomes quieter and results in a more restful journey for the passenger.

Passengers are assured, too, of an even and comfortable temperature throughout their trip, since the insulating and heating installation makes it possible to maintain an inside temperature of 70 degrees although the outside temperature is as low as 40 degrees below zero.

LIGHTING FEATURES

Another unique feature of the luxurious Commando is an indirect fluorescent lighting fixture, running the full length of the cabin ceiling.

The soft, non-glaring, restful-to-the-eyes lighting arrangement provides a maximum number of candle-units for the plane's interior.

Convenient to each comfortable chair is an individual reading light, designed to give glare-less illumination in a 20-inch circle at reading level without annoyance to other passengers.

Also conveniently located to each seat is a service call button, which lights an indicator and sounds a soft chime at the stewardess' desk.

ADJUSTABLE SEATS

Offering luxurious comfort for the passengers are the fully adjustable, richly upholstered chairs. They are provided with fingertip control for reclining the back and sliding the seat forward, with flush-type ashtrays built into the arm.

Running the full-length of the cabin are commodious overhead racks for small pieces of luggage, and a small ledge on the lower portion of each window frame provides convenient space for handbags, cigaret packages, compacts, writing materials and other personal articles.

Window positions in the plane provide the passenger with unobstructed panoramic view.

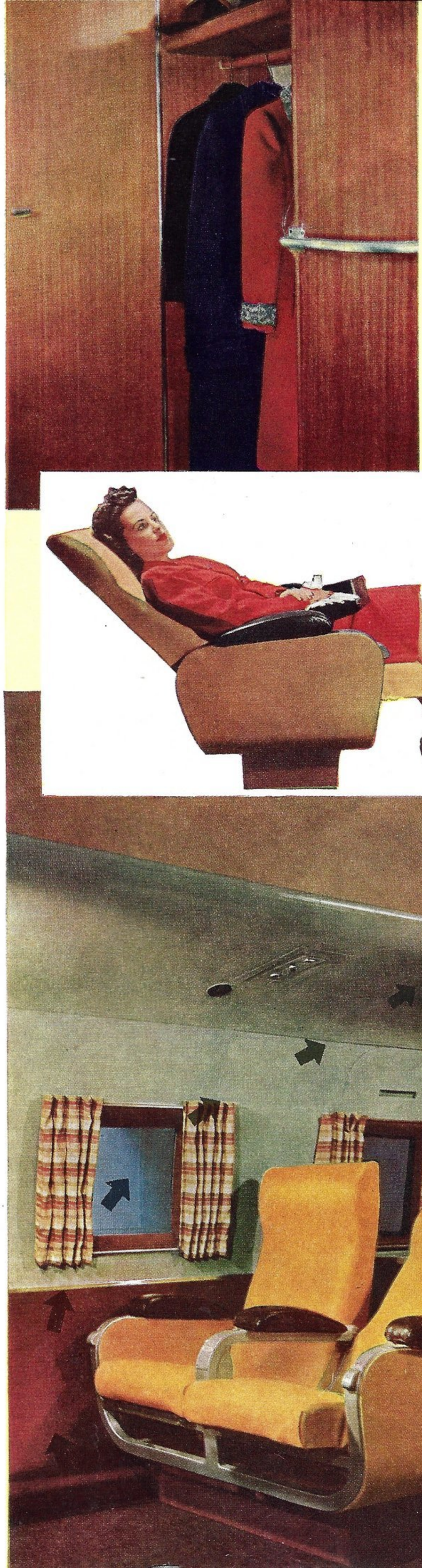
An adequate compartment has been installed in the cabin where coats of the passengers, taken by the stewardess as they enter the plane, may be hung during the trip.

VENTILATION

Contributing further toward making the passengers' trip a pleasant one is the ventilating system.

Air in the cabin is completely changed once every minute and three-quarters.

Ventilating air enters the cabin through anemostats located at each double seat and is discharged through vents above the indirect lighting fixture. For the air traveler who desires additional fresh air, each seat is equipped with an easily adjustable air vent which does not affect others.



PERSONALIZED CONVENIENCES

A new kind of galley was engineered for the Commando — a "mechanized" sky kitchenette.

Completely equipped, it will enable the stewardess to prepare and serve tempting meals to passengers as they fly comfortably through the sky. The design of the kitchenette provides for a Dutch oven, grill hot plates, toaster, mixer and even a baby bottle warmer. A separate counter serves as a snack bar.

Thermos bottles for hot and cold liquids and thermos jugs for pre-cooked meals are clamped in racks, and are easily removable. All non-perishable foods, dishes, silverware, trays, napkins and accessories are housed in special compartments that facilitate service to the passengers.

The sky kitchenette, finished in polished metal, is separated by the length of the cabin from the men's room and the ladies' powder room. Entrance to the galley is through a specially designed Dutch door which converts it into a serving pantry. An exhaust duct prevents the intrusion of food odors into the passenger cabin.

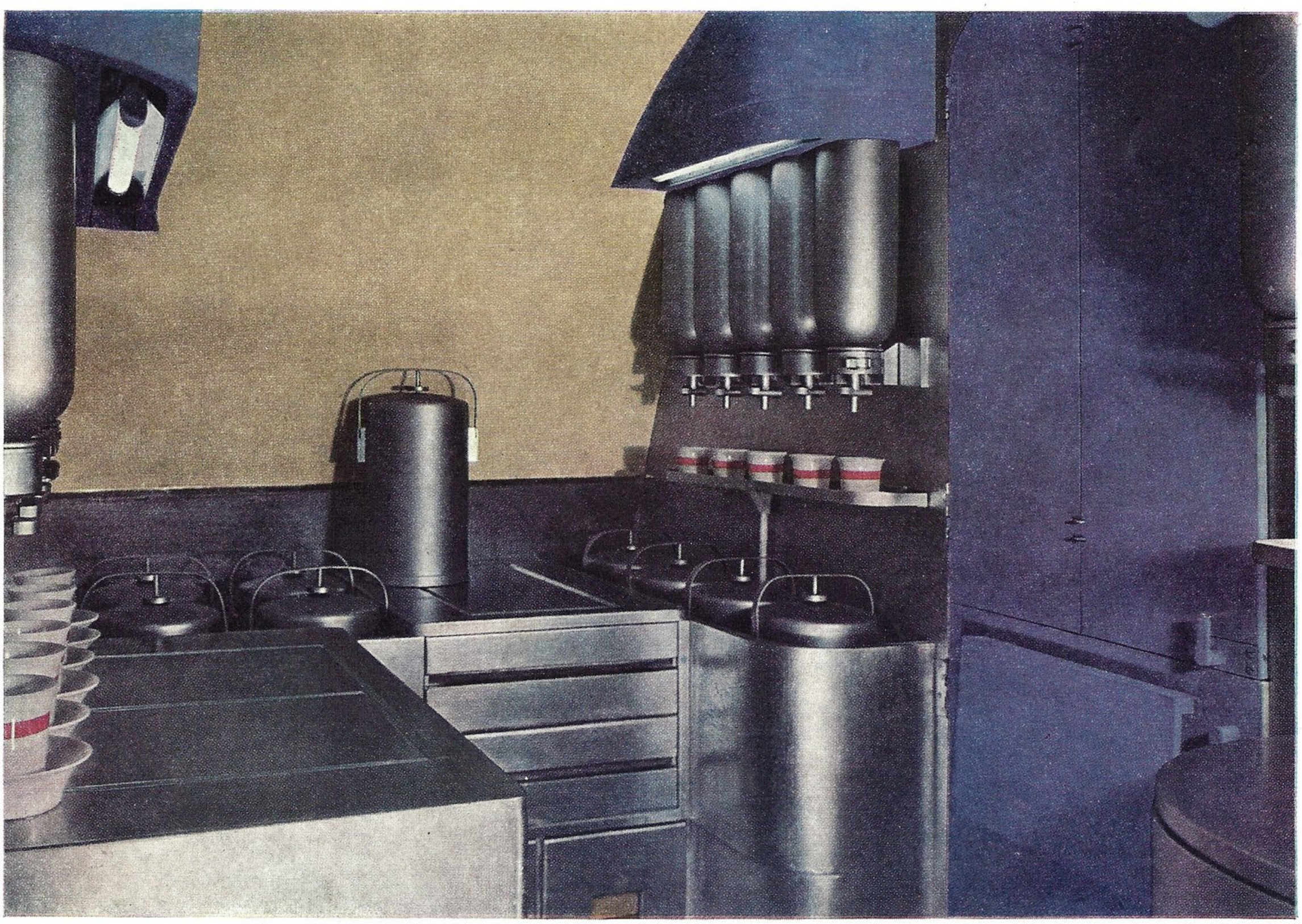
The soft, pleasant colors of the sky kitchenette follow the decorative motif that has been utilized throughout the new luxury liner. The design of the galley follows the desire of the Commando builders to provide all possible accommodations for the passenger.

Every provision has been made in the plane to aid the stewardess in her work. Situated near the rear of the cabin opposite the entrance vestibule, the stewardess' quarters features a desk provided with a control panel for operating the cabin, vestibule and lounge lights, the hot water heaters and the ventilating system.

The stewardess has a telephone which connects her quarters with the flight control room, permitting her to keep in touch at all times with every part of the plane. Her desk is equipped with the materials needed for flight reports. The desk and chair are leather upholstered, and the color scheme of the stewardess' quarters blends in with the remainder of the interior.

The appointments of the cabin of the Commando have been so skillfully installed that stewardess service for the passengers is carried on with a minimum of effort and in the fastest possible time.

Every provision is made to help the stewardess provide complete service to the traveler.



Shown above is the colorful "mechanized" sky kitchenette, specially engineered for the Curtiss-Wright CW-20 Commando.

CARGO SPACE, MAINTENANCE

The Commando, with a wing spread of 108 feet, overall length of 76.31 feet and a height of 21.7 feet, was designed to supply the needs of the medium-range airline traffic market, a survey by Curtiss-Wright having established the fact that 85 per cent of the airlines' business in this country consists of trips not exceeding 500 miles.

However, the Commando has a maximum range of 1,520 miles, and it is designed to take off from, and land on, the average airport.

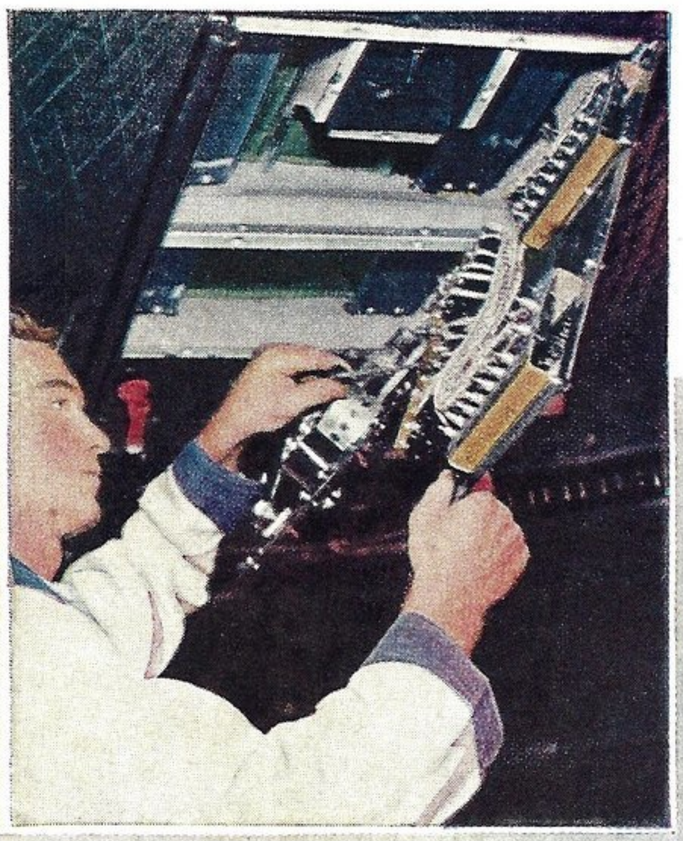
Designed as a combined passenger and cargo plane, the ratio of passenger space to express and mail space was carefully worked out. Thus, the Commando has more cargo space per passenger than any other transport airplane.

There is 526 cubic feet of space for luggage, mail, express and other shipments in the two cargo holds. The roomy sections can accommodate full-size wardrobe trunks or cases with ease. The two large cargo compartments are in the lower section of the plane, one forward and one aft, where they are easily accessible for loading from the ground. Lights, controlled from just inside the door openings, illuminate the compartments to facilitate loading and unloading.

The commercial Commando, furnished with Curtiss Electric three-bladed quick-feathering propellers, will be among the best equipped airplanes in the world in the matter of radio and directional controls and ground communications.

It has been engineered to facilitate maintenance, all vital parts of the plane being made easily and quickly accessible to ground crews.

There is plenty of space in the CW-20 for luggage, mail, express and other shipments in two cargo holds. The cargo compartments are in the lower section of the plane. They are easily accessible and are well lighted to facilitate loading and unloading operations.



Maintenance accessibility is an important feature in the design of the new CW-20 Commando airliner. The plane was engineered to permit ground crews to service it rapidly and with ease. The photographs (left and below) illustrate ease in reaching electrical system and providing engine maintenance. Individual parts or units of parts are all readily accessible for maintenance. The new commercial Commando is among best equipped airplanes in world.

VISIBILITY UNLIMITED

CHANGES in the basic design in the nose of the Wright Cyclone-powered CW-20 Commando, revealed for the first time recently and to be incorporated in C-46s, will greatly improve pilot visibility and general cockpit operation.

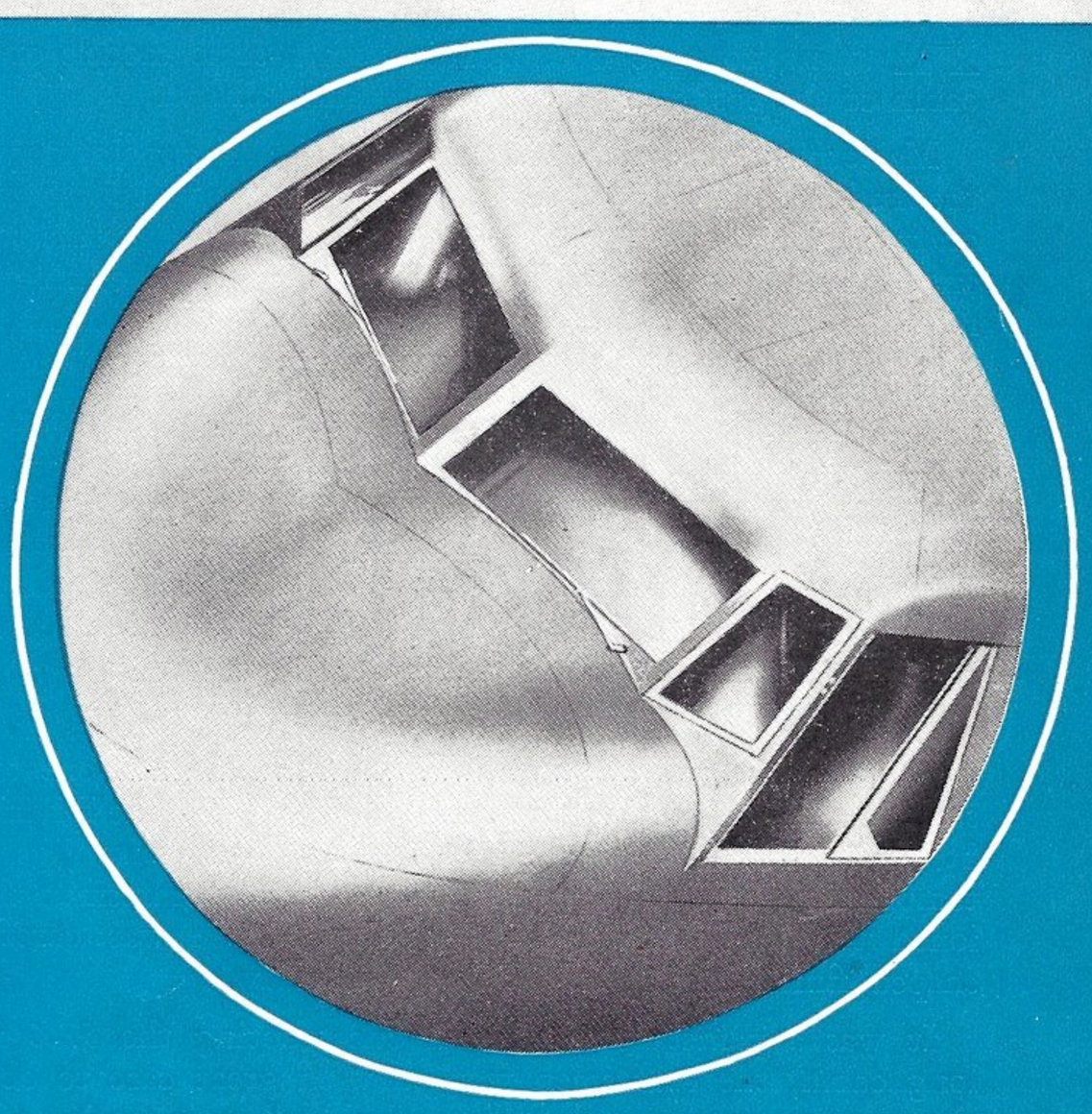
Principal change in the contour of the plane, which uses Curtiss Electric propellers, is the recessing of the windshield. The flat glass type eliminates distortion, makes for better windshield wiper action as well as increasing markedly the range of the pilot's vision. Deeper side windows also have been incorporated.

The Commando's new windshield consists of two double panes of safety glass separated by an air space, and meets the Civil Aeronautics Administration's recommendations on "bird proofing." A clear vision panel, which may be opened in flight, makes it possible to obtain a view ahead under extreme icing conditions and also to manually clean ice or other accumulations from the front of the windshield in flight.

The utmost range of vision is provided because the normal positions of the pilots' heads are within 18 inches of the recessed windshield.

Dual sets of flight instruments and controls are provided and the automatic pilot and engine instruments are grouped in the center of the instrument panel, within full view of both the pilot and the co-pilot.

Design engineers have given close consideration to servicing and maintenance requirements, assuring ease and speed in those operations with the nose and cockpit design.



The CW-20 Commando airliner features a recessed windshield. The change in the contour of the nose makes for better pilot visibility. The flat glass type windshield eliminates distortion and is constructed to meet recommendations of the Civil Aeronautics Administration on "bird proofing."

AIRLINER IN MINIATURE

A "TOY" any air-minded youth would give almost anything to have is one of the tenth-scale models of the cabin of the post-war Curtiss Commando airliner.

Masterpieces of replica in finest detail and appointment of the full-scale mockup, the models were produced by wood craftsmen in the St. Louis Plant. They worked to a fine tolerance in making the "doll house" furnishings of the miniature model, the chairs, the galley, the restrooms, the doors, the windows and the countless fixtures.

The models are something prospective customers can examine — through their imaginary magnifying glass — and visualize the giant Commando airliner. They were made so airline officials, studying them, could decide on their preferred seating arrangements and color combinations in the cabin of the plane and on the appointments of the kitchenette, restrooms, and other sections of the cabin.

In producing the colorful miniature models, a series of special blueprints, drawn with careful accuracy to one-tenth scale in the Engineering Department of the Airplane Division's St. Louis Plant, were prepared. Special miniature jigs and templates were constructed from which the craftsmen fashioned the many tiny pieces, and each piece was carefully shaped, finished and polished before assembly.

It was a painstaking job. In constructing the 57.6 inch long cabin, the craftsmen worked with great care to obtain the exact curvature to the "double bubble" cross-section of the fuselage. The cross-section of the Commando is in reality two circles, the larger one above, the smaller below, intersecting at a common chord line at the cabin floor, the lower compartment forming the baggage and cargo holds.

In turning out the models, a form block was first built by the craftsmen for each side, or longitudinal half, of the barrel and the 7/16th inch plywood was tacked into place on the ribs and glued. To fit the slendering of the fuselage at either end, the strips were graduated in width to fit.

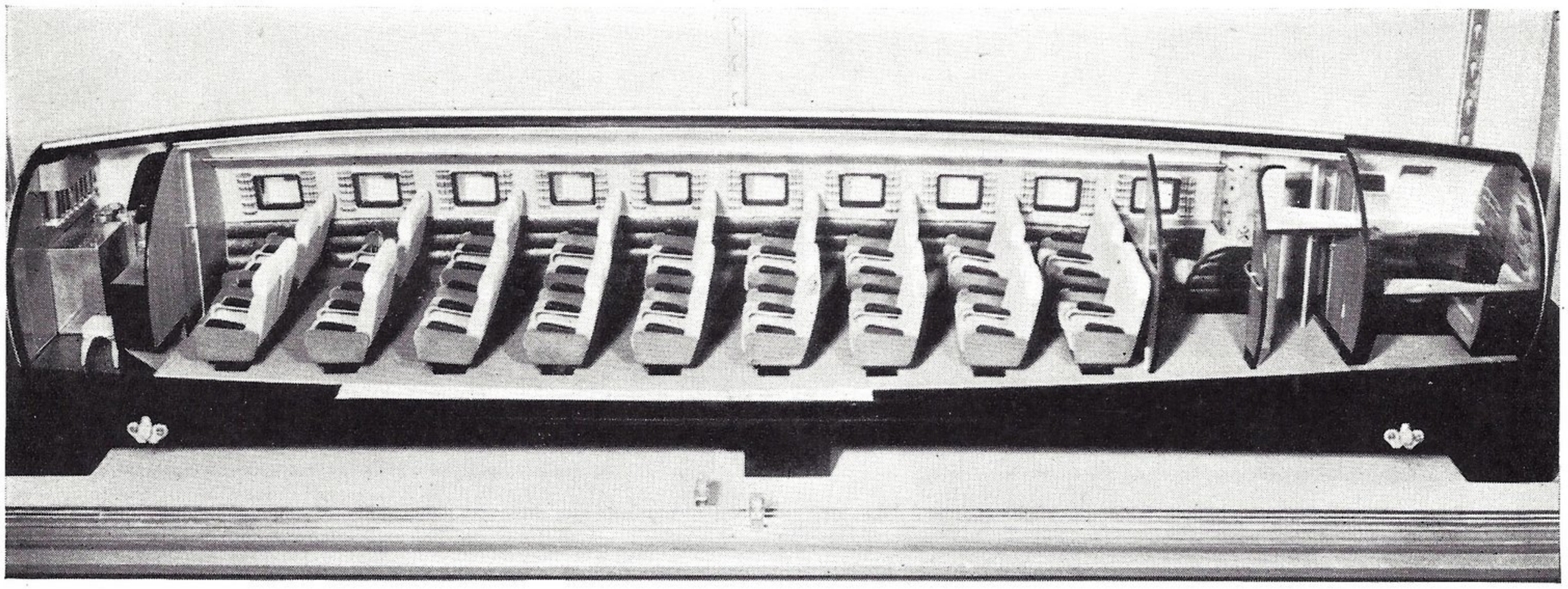
Since a half of the cabin shell of the tenth-scale model is of Plexiglass, prospective customers may view the interior of the entire cabin without removing the half shell. The other half of the model is constructed of plywood.

The model has nine standard windows, two smaller ones and the center passenger door on the left side of the cabin, and 10 large windows and two smaller ones on the right side, just as is found in the new commercial plane. The finest precision work went into the construction of the window frames, three jigs being required for cutting, fitting and glueing the eight pieces in each frame, beveled to the contour of the cabin.

No nails, screws or glue were used in making the 36 seats in the model, the entire assembly being held together by the tightness of the fit. The seats are made in pairs, each double section being comprised of 28 pieces, including dowel pins. The two restrooms situated in the aft of the fuselage, are equipped with miniature facilities.

A compact little flying kitchenette, located in the forward section of the plane, is completely equipped. Included in the tiny galley are batteries of miniature thermos bottles and thermos jugs for food and hot and cold drinks for 36 passengers and the crew. The galley, which in the CW-20 will be finished in polished metal, also contains a tiny hot plate stand, serving tables, five cabinets and closets for dishes, silverware, linens and trays, and a two-section Dutch door with a folding serving shelf for the stewardess' convenience and to serve as a snack bar.

A job of infinite detail was the upholstering of the tiny chairs. A unique and highly colorful effect of mohair cloth was attained by blowing a fine lint on partially dried enamel and then painting it with an air brush. The desk and chair



This side view of the tenth-scale model of the fuselage of the new Curtiss CW-20 Commando transport plane shows (left to right) the food galley, cabin seating arrangements, men's room and ladies' powder room. The model, a masterpiece of replica in finest detail, was produced by craftsmen in St. Louis Plant.

used by the stewardess in her quarters opposite the entrance vestibule are painted to simulate upholstery in leather.

A soft, rich shade of velvet was used for the carpeting in the cabin, giving the effect of a deep pile in keeping with the entire furnishing. Proportionately fine material was used for window curtains to gain the effect of heavy drape material.

In producing in minute detail this tenth-scale model of the cabin of the CW-20 Commando, no effort was spared to give the prospective customer the "feel" of a luxury airliner.

The exact replica shows all the luxurious comfort that has been built into the new Curtiss commercial airliner; the soft, pleasing-to-the-eye colors that decorate the interior; the innumerable accommodations that have been included to make the air trip of the passenger as pleasant as possible.

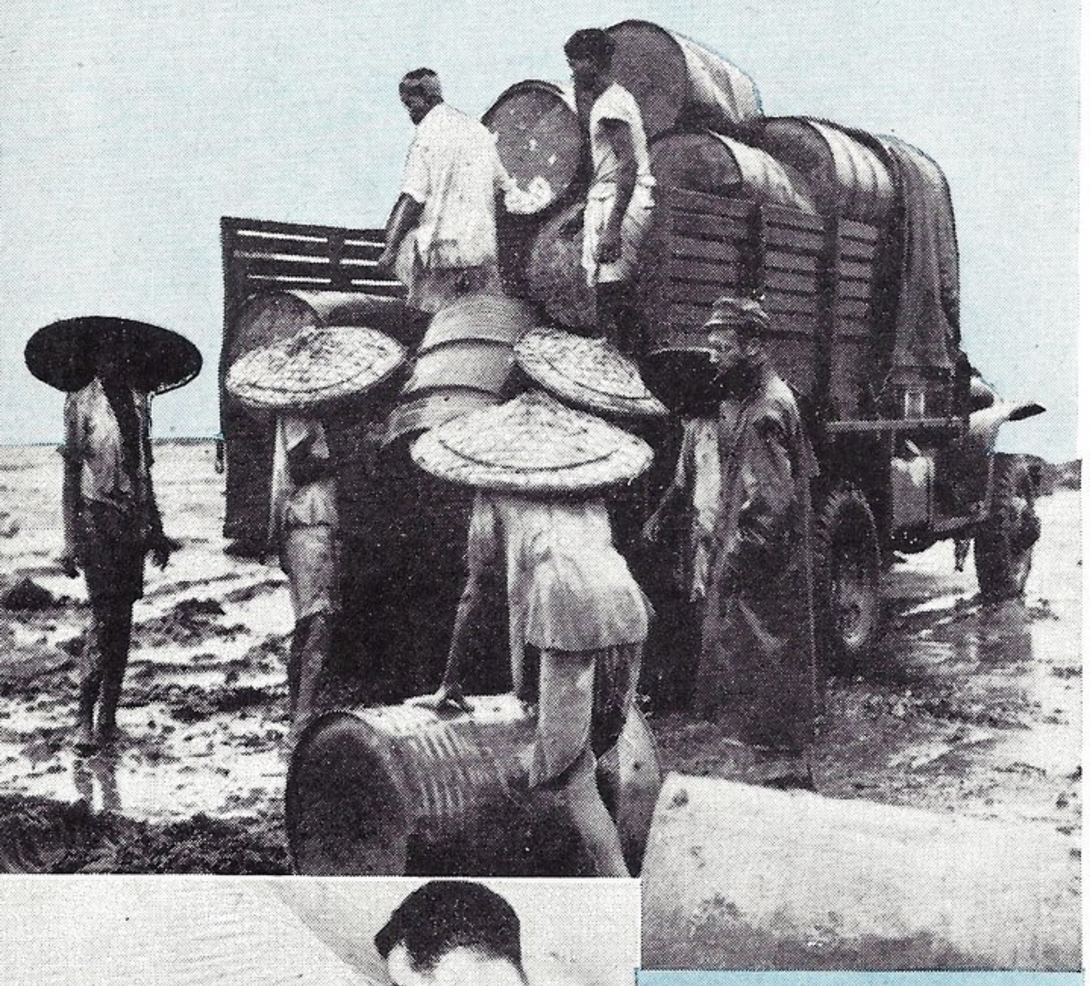
Santa Claus would give his long white beard for this "toy" if it could be produced by the thousands for the world's aviation-minded children, and he would swap his weight in dwarfs from his imaginary workshop at the North Pole for the skilled woodworkers and artists who created the glorified "plaything." The precise workmanship in this miniature cabin would satisfy the most exacting Lilliputian royalty.

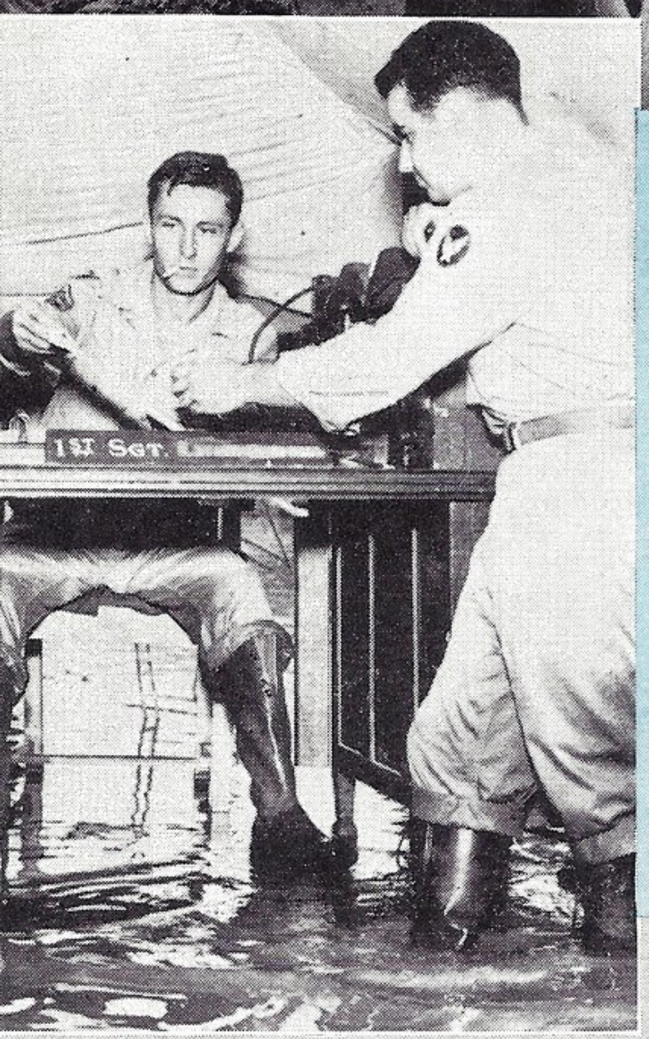
The public will be able to view the tenth-scale model of the Curtiss Commando in the numerous aviation exhibits throughout the country, and at the various travel shows which will be renewed as soon as war conditions permit. Model builders will get a new inspiration from the detail of the exhibit.

Size of the models that are part of the airliner replica are illustrated by the young woman. She holds tiny seats that go in the cabin of the tenth-scale model.

Building of the tenth-scale model required careful workmanship. Wood craftsmen worked to a fine tolerance in making of the cabin and "doll house" furnishings.

Record Setting C-46





Conditions existing at certain times of the year at some places in the CBI theater where Commandos are stationed are illustrated (top and left). Natives prepare to load oil drums in soupy mud, while two officers work in the water. "The Old Horse," at rest in her "stall" (below) has chalked up a record of 566 crossings of the treacherous Hump.

FEW, if any, of the Air Transport Command planes flying the perilous run over the Himalayan Hump have records comparable to the one set by a Curtiss C-46 Commando at an ATC base in India.

The C-46, affectionately called the "Old Horse" by its crew, has piled up the uncommon record of 283 India-China round trips, or 566 crossings of the treacherous Hump.

The Hump takes a lot out of a plane, for it involves weather as violent as it is unpredictable, and the military cargo ships carry top loads at the greatest practicable speeds. Nor do rather primitive conditions which prevail in the neighborhoods of most of the Hump bases contribute to the best maintenance arrangements.

Sgt. Donald Nash and Sgt. Raymond Machado, both of Massachusetts, are the engineers on the record-breaking C-46. They watch over the Commando like trainers of a great prizefighter. She is still in top shape, despite the punishment she has absorbed, and is adding to her noteworthy record almost every day.

Another milestone in the progress of the ATC's India-China Division was marked recently when the first silver Curtiss C-46 Commando winged its way over the jagged spur of mountains.

Pilot of the alclad Commando on its initial hop was Capt. Roy I. Barnes, operations officer at an ATC base in India, and co-pilot was First Lt. Arthur O. Bouvier. In China the ship was greeted by bewildered and awed natives who never before had viewed such a "large, silver bird."

Then there is Old 3595!

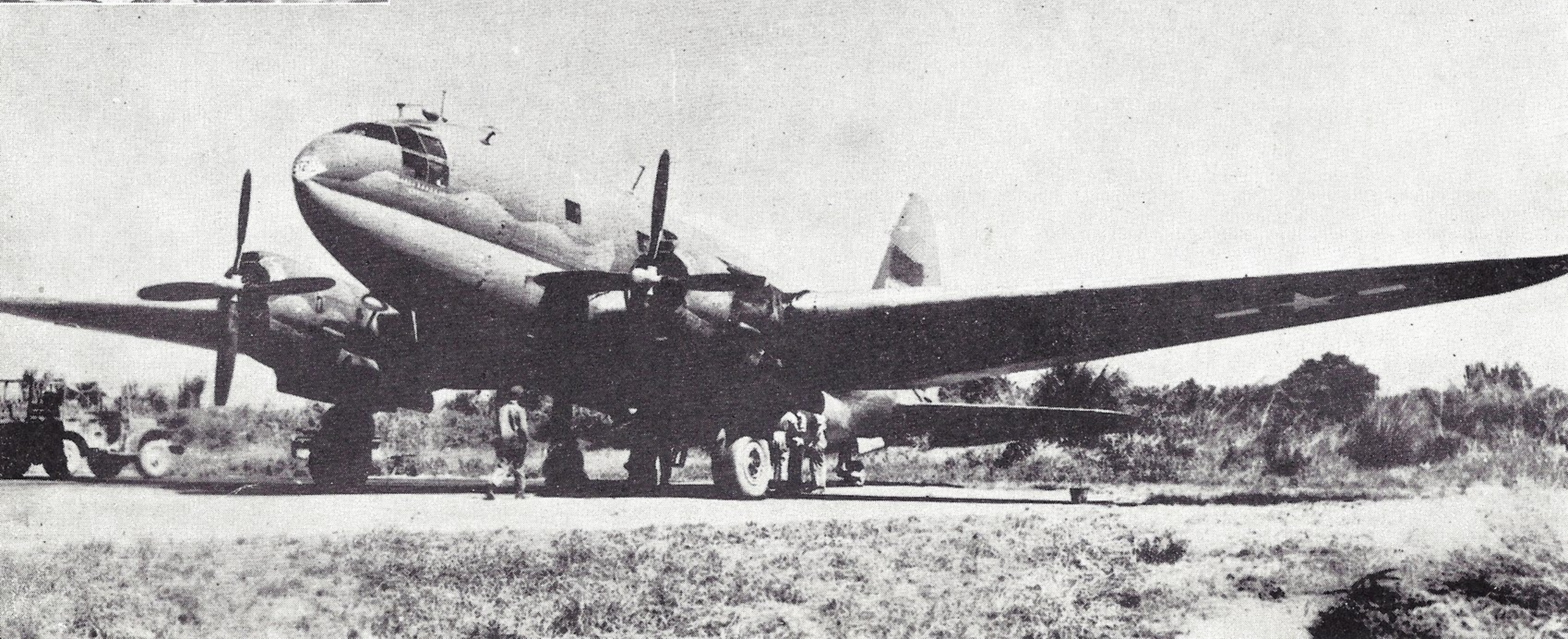
Old 3595 roared off the runway at 3:20 one afternoon, bound for a southeastern China air base that had to be evacuated, and in a hurry.

The Japs were crowding up fast and the ATC had been called upon to get out valuable aircraft engines, tires, Signal Corps equipment and personnel of the 14th Air Force. In all, 20 C-46 Curtiss Commandos made the hazardous trip.

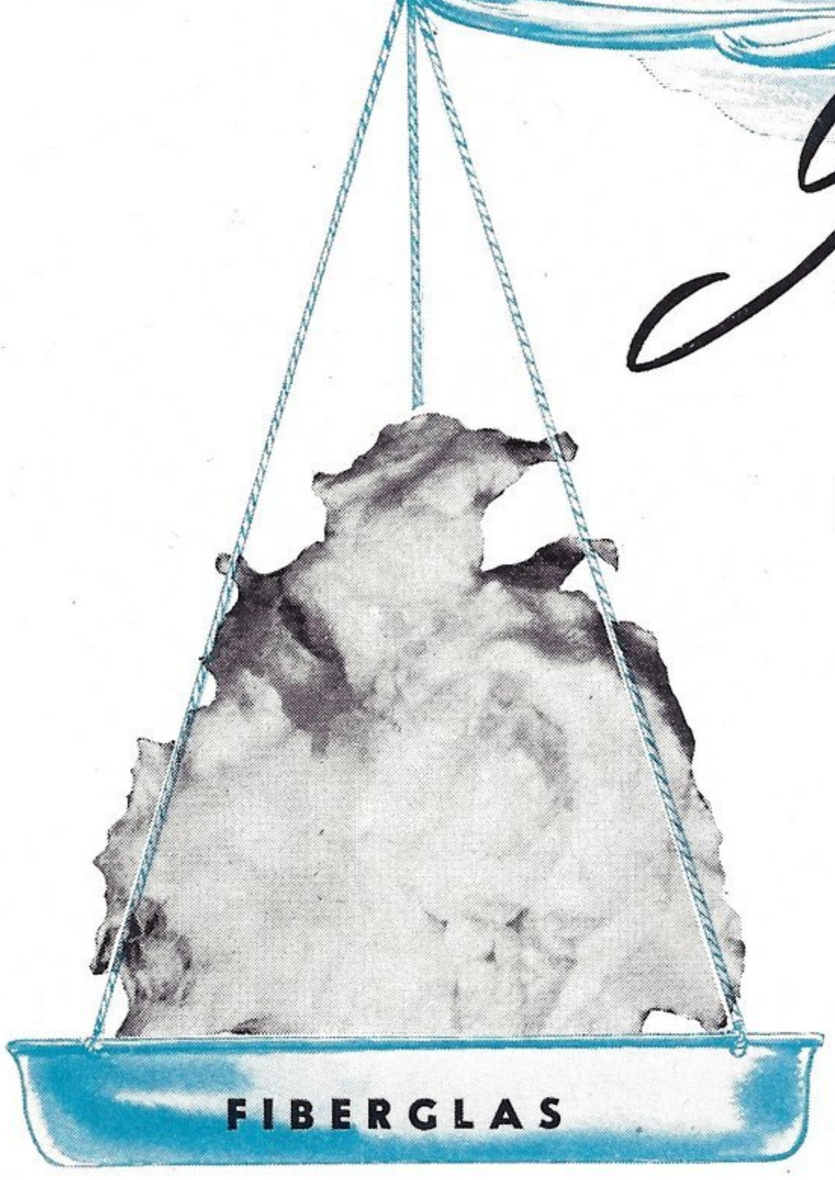
At the controls of 3595 were Maj. Richard L. Walker, Springdale, Ark.; and Lt. Norbert J. Staib, Louisville, Ky.; Pfc. Richard M. Nicklas, Chambersburg, Pa.; was the radio operator. Aboard were Capt. George W. Lusk, Albuquerque, N. M., and Capt. Charles A. Mitchell, Brookings, S. D.

It was a new sort of job for what the pilots called "one of the flyin'est airplanes" on the famous Hump run. One hundred and ninety times this truck-horse of the aerial Burma Road has made that hazardous trip.

She reached the CBI theater Feb. 7 of this year. So far, she has flown more than 1,500 hours and she's as sturdy as the day she hit the theater.



GLASS *Insulated*



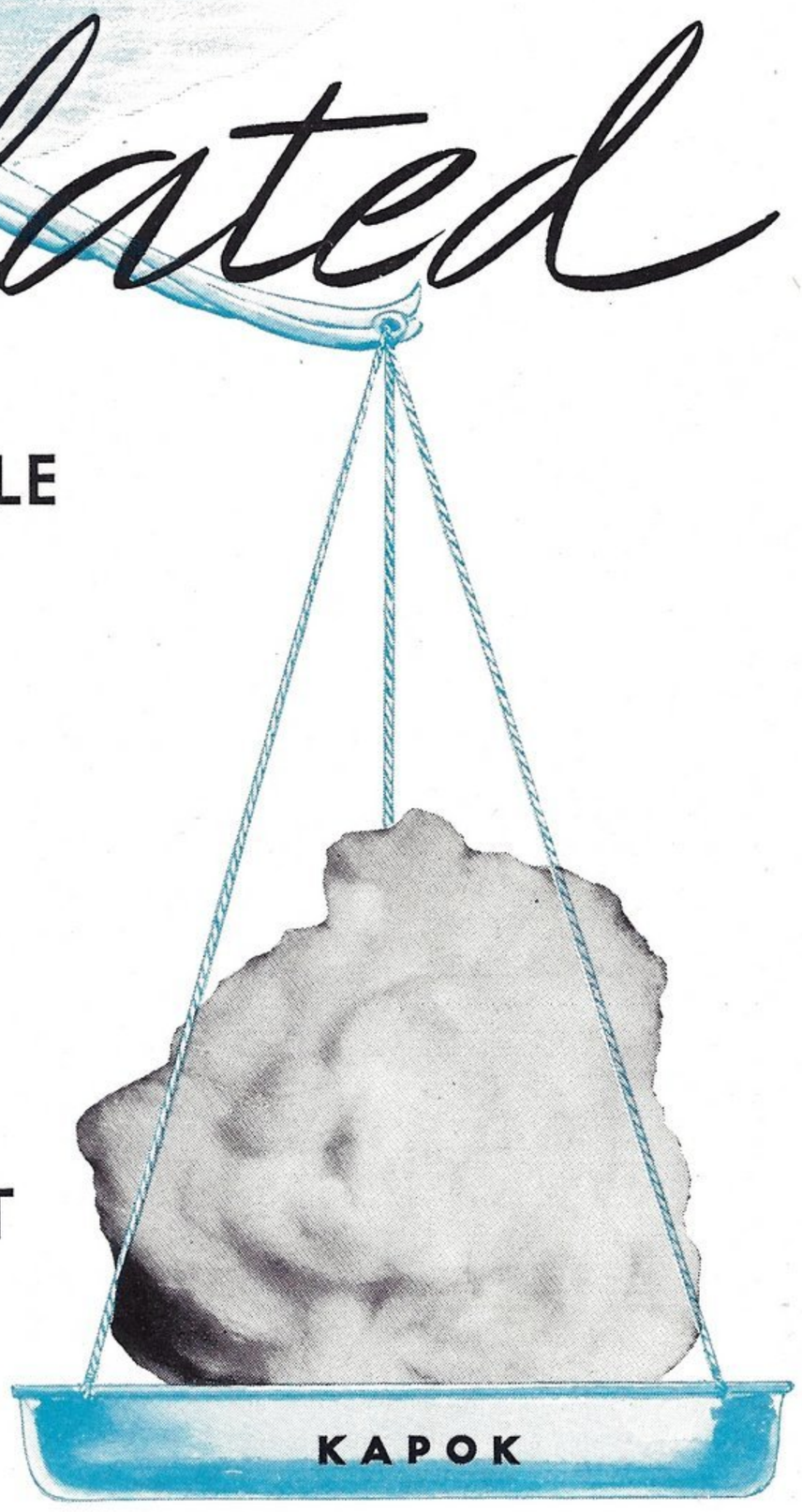
NON-INFLAMMABLE

INORGANIC

VERMIN-PROOF

NON-ABSORBENT

SHOCK-PROOF



WITH an eye to the future, a Curtiss C-46 Commando has been "wrapped" in glass!

It's insulated, for cold weather flying, with minute glass fibers formed into a blanket one-half inch thick. That blanket, mounted on a durable trim cloth, is an efficient, yet light insulation.

Lessons learned by aeronautical engineers during the war in providing protection against below-zero temperatures of the sub-stratosphere, the searing heat of the jungles, as well as against noise fatigue, will add comfort to peacetime air travel when commercial airlines adopt the latest developments in airplane insulation.

The insulation being used in the Commando is non-inflammable, being glass; inorganic, it is vermin proof and will not support fungus growth; and, because of the fineness of the fibers, will not disintegrate under vibration. Non-absorbent, it is composed of tiny glass rods, .0002 inch in diameter.

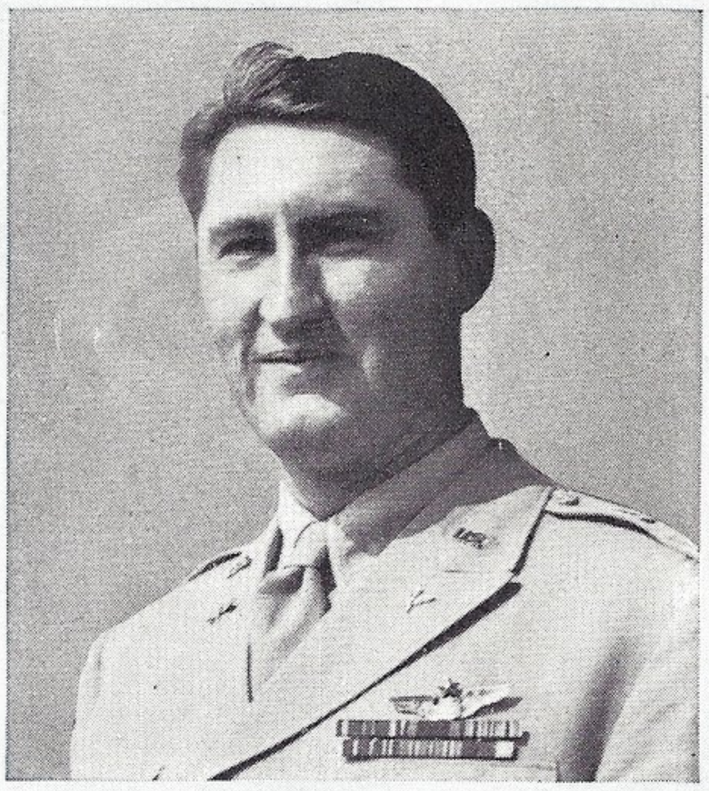
Tests show the glass fiber lining makes it possible to hold the interior temperature of an airplane at 70 degrees, Fahrenheit, when the outside temperature is 40 below zero.

Weight of the Fiberglas — trade name for a development of the Owens-Corning Fiberglas Corporation, Toledo, O., — is one ounce per square foot in the half-inch blanket, much lighter insulation such as kapok and other vegetable fibers.

Total weight of the insulation for the C-46 Commando is 180 pounds, a saving of 200 pounds over kapok. A further advantage over kapok is its non-absorbent quality. Under jungle heat and humidity, kapok increases in weight 190 per cent; Fiberglas only 1 per cent.

The glass fiber installation fits snugly around the various instruments and switches in the pilots' compartment. The protective blanket is equipped with snap fasteners for quick and easy installation, and the protective curtain at the windows may be rolled up and fastened by straps and snap fasteners. The "glass-lined" cabin is a development of engineers at the St. Louis Plant.

Looking forward in the cabin of a Curtiss C-46 Commando cargo troop transport built for the Army, shows the installation of Fiberglas insulation with aluminum finish trim cloth. This insulation job, using the glass fiber blanket, is considered a definite improvement in weight saving and in protective insulation.



Capt. John D. Payne, who at the time this article was written was attached to the Engineering Office at the Reno, Nevada, Army Air Base, was born June 14, 1913, at Paducah, Ky.

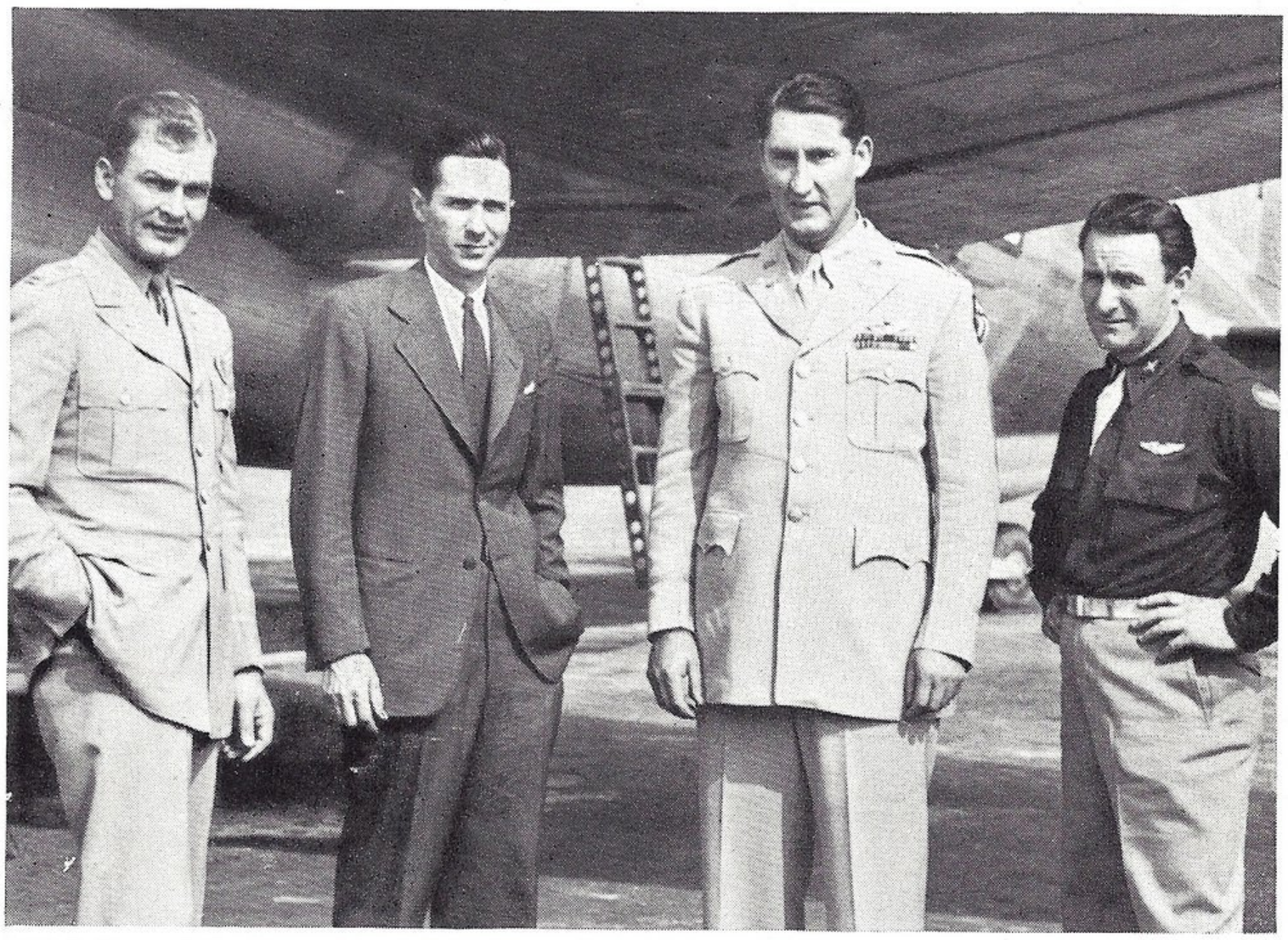
He learned to fly at San Diego, Calif., and from 1935 to 1938, he conducted a flying school in Amarillo, Tex. In 1939, he joined Eastern Air Lines as co-pilot, and on Jan. 10, 1942, he was promoted to first pilot.

On March 11, three months after Pearl Harbor Capt. Payne was called to active duty as Second Lieutenant and was one of the first Americans to be sent to the India-China theatre where he distinguished himself as one of the outstanding transport pilots. Soon after the first flight of Curtiss C-46 Commandos arrived in India in May, 1943, he was made Operations Officer of the first squardon to be activated. Among his achievements is the honor of having made the first night flight over the Hump.

For his achievements in China-Burma-India area, Capt. Payne has been awarded the American Distinguished Flying Cross, the Air Medal, and the Chinese Royal Order of the Clouds.

Hazardous Journey

By Captain John D. Payne



Noted flyer of the Hump, Capt. John Payne (third from left) is shown here during a recent visit to Buffalo with Capt. John Dalto (left), Edwin J. Ducayet, Buffalo Plant Contract Manager, and Lt. Charles Marsalli. Dalto and Marsalli are located at the Reno Air Transport Command training base.

IN THE Herculean task of keeping China supplied with the necessary implements of war, Curtiss C-46 Commandos are playing a mighty vital role.

They, more than any other transport aircraft, are responsible for the increase in the flow of war materials across the towering Himalayan "Hump" into China from a trickle into a volume which more than surpasses that which formerly moved by the overland Burma Road.

Recent Japanese successes in China have accentuated more than ever the necessity of keeping China supplied. After 19 months of service in the India-China Theatre with the Army Air Forces, I can appreciate the size of the job we're up against, since every ounce of material must be hauled over the "Hump," the most hazardous air route in the world. But it's a job that's *got* to be done.

During the monsoon season, which lasts from May until October, the weather is so bad that even crows are grounded. But the almost insurmountable obstacles have not stopped the Air Transport Command from establishing regular scheduled flights and Commandos shuttle the "Hump" day and night.

After the fall of Burma in May, 1942, we had only a handful of old transports with which we were to supply General Chennault's China Air Task Force. No parts, no equipment for servicing and maintaining the hard-worked planes. To make things more difficult, we (most of us were former airline pilots) had been spoiled by the safe flying conditions existing in the States where we had had all the necessary facilities to make flying a comparatively easy job.

I remember very vividly my initiation into wartime flying.

It was over the "Hump" early on a clear, pre-monsoon season morning. But for a message from the AVG warning net, advising us that Jap Zeros were heading our way, it might have been just another flight over an unknown route.

But we knew there was danger. We had to have a plan to dodge the Zeros — and we worked out a simple one. We decided to stay in the deep canyons of the "Hump," flying as low as possible to keep the Nips from making a pass at our unarmed transport.

Within minutes — which seemed like hours — we spotted enemy planes in the distance. Immediately we began to circle inside the canyon walls.

But before the four Zeros could get in position to make a pass at us they were attacked by two shark-mouthed P-40s from the Flying Tigers. For the next hour and a half we kept maneuvering inside the canyon while the outnumbered P-40s and the Zeros fought it out. The skillful way in which the P-40s outfought the Japs fascinated me.

Then the Zeros seemed to have had enough of those hard-hitting P-40s and they fled in the direction of Burma.

I breathed a sigh of relief when our pilot, Lt. Dean Wade of Dallas, Tex., smiled, "We're still in business," and we roared on to our destination — the supplies delivered and our jobs completed for the day.

By the end of June, flying the "Hump" had become more or less routine for me. I had made the daily round trip dozens of times — some days even getting in a third lap before dark. It was old stuff, yet every trip over the Himalayas, which correspondents call the toughest in the world, brought new dangers and new adventures. It's difficult to call any trip typical, and no two were alike.

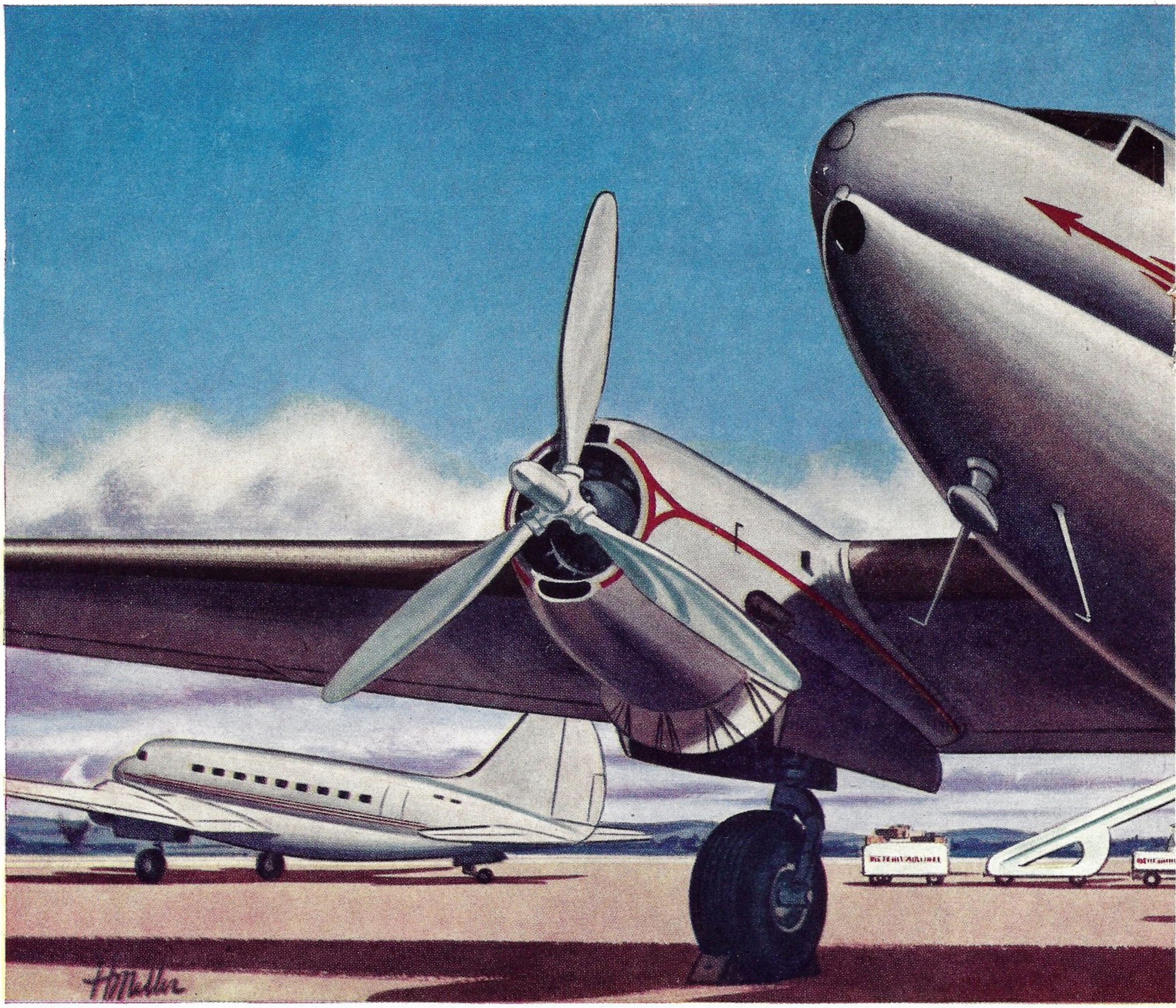
As the monsoon season ended during the fateful year of 1942, our commanding officer, Col. Julian Joplin became apprehensive. The end of the season meant the clouds would disappear over India and China and then — look out for the Japs!

There was only one answer to this problem — fly the "Hump" at night. This brought new problems — instrument flying became imperative practically the entire distance. We decided to try it. I volunteered and got the nod.

After darkness had settled over northern India we took off at 6:25 p.m. and set our compass and charted our course by the six smudge-pots 550 miles away. My crew consisted of Crossett, co-pilot; Captain Bordeno, observer, and Sergeant Maida, radio operator.

Halfway across the trip we ran into trouble we had not reckoned with. It gets mighty cold over the "Hump" at night, and we iced up faster than we had done previously. There was nothing to do but turn even further south than usual. Eventually we lost the ice. Suddenly, in the distance, we glimpsed the small tongues of light leaping into the darkness and the "Hump" had been flown at night for the first time.

• Concluded on Page Twenty-One



CW.20 - Answ

By John

There are innumerable factors that enter into the design the decision to produce such a craft for airline use. Many of planes are discussed in the following article by John Drew

THE design of a successful transport must first of all be based on sound research.

The development of a new transport airplane, like the Commando, may take from two to four years, and may cost from one to ten million dollars. When you consider that the maximum number of any new model likely to be sold is a few hundred, and that a half dozen manufacturers may be competing for the business, it is clear that the designer must be certain that his design is a good one before a large percentage of the total development cost has been expended.

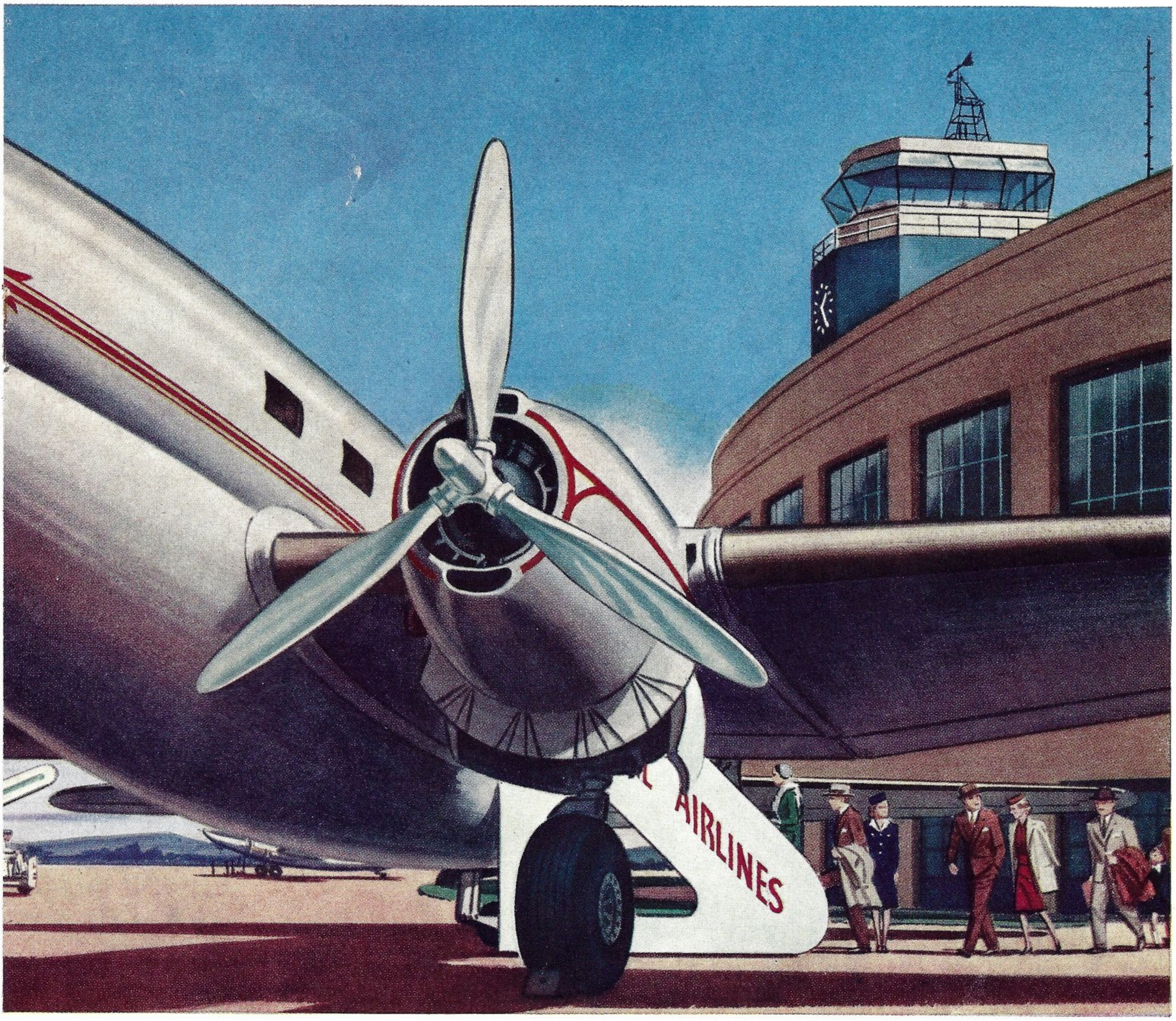
There was once a day when a group of designers could draw up a specification for a transport airplane in a few hours. The problems were largely aeronautical engineering problems involving aircraft performance, flying characteristics, and structural design.

But in recent years the airlines have increasingly recognized the need for systematically incorporating their ideas in the design of the new equipment.

Experience has shown that more careful consideration must be given to actual market requirements and to designer's opinions. A compromise must be reached between a design incorporating all the features that the operators believe they need, and one that includes all the characteristics that the designer believes are necessary for overall efficiency and good flying qualities. Intensive research is required to strike a balance.

Aircraft manufacturers have learned a great deal during the war about the design of transport equipment for functional efficiency and they have, so far as war work would permit, been able to examine their long-range equipment needs.

In order to put their ideas to work, the airlines set up within the Air Transport Association, the Aircraft Requirements Committee, whose function was to draw up specifications for various types of aircraft. These specifications were intended to be goals for the designers to aim at. They do not



er for the Airlines

n Drew

of a transport airplane such as the Curtiss Commando and the factors that must be weighed by manufacturers of air-, Transport Liasion Manager, Airplane Division Contracts.

tell the designer how the airplane must be laid out, but they do state exactly what the operators expect to be able to do with the equipment.

The Requirements Committee has drawn up specifications on four types: a short haul local service airplane of about 30-passenger capacity, a short and medium haul 50-passenger airplane, a long haul high speed airplane of about 50 to 60-passenger capacity, and a long haul 100-passenger transport.

The specifications lay down the major characteristics of each type: the performance, weight, approximate number of passengers, cargo capacity, type of construction, general arrangement, maintenance characteristics, and loading features.

The ATA's Requirements Committee has drawn up a number of general specifications for component parts of the airplane. For example, specifications are being developed for cockpit arrangements, cabin arrangement, heating and ventilating, electrical system, and the other items that are common to all types of transports. These greatly increase the designer's ability to start his design in the right direction.

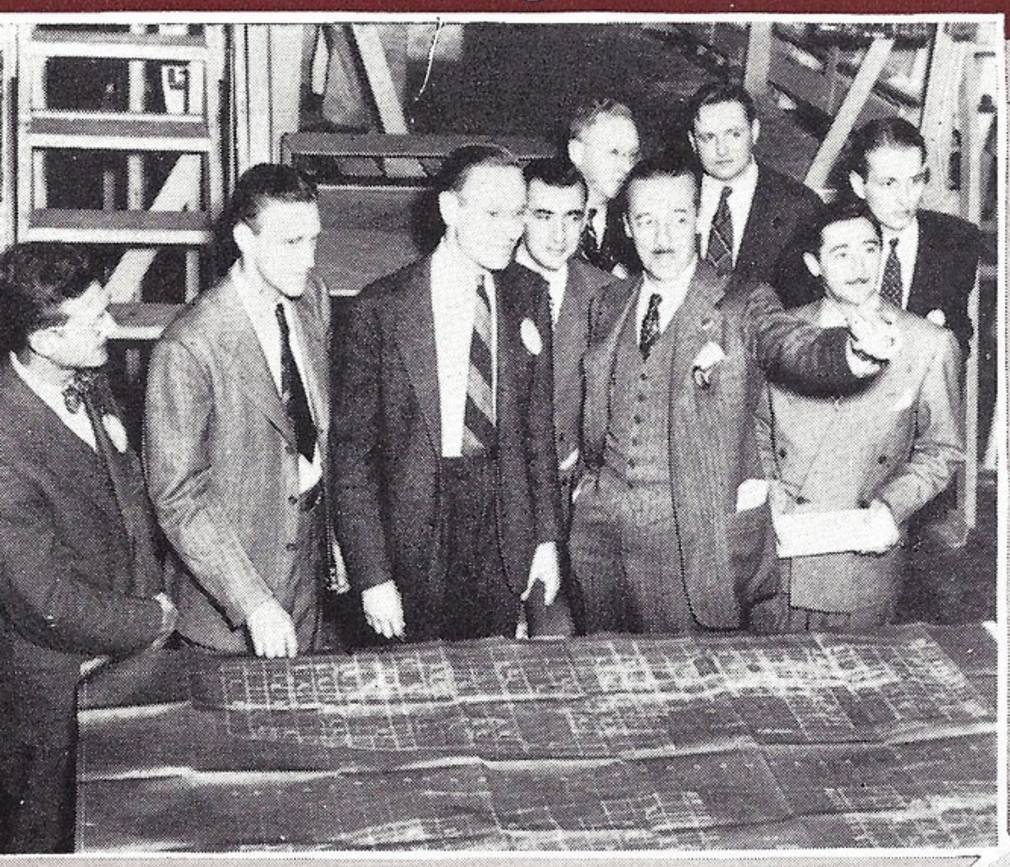
The foregoing may indicate that the only information that is essential for the designer is that which can be obtained directly from the airline operator. This is not the case. There are many investigations that must be made by the transport manufacturer before he is in a position to go ahead with a new transport.

Before any design work can be done, it is first necessary to decide what general type should be developed. A study of operator's specifications, such as those established by the ATA, provides a basis for an investigation. Beyond this, it is necessary to check carefully with the individual operators, and determine exactly what each would like to have for his own airline.

This is not always easy, as the operator's plans may be contingent upon a number of factors. At the present time, the

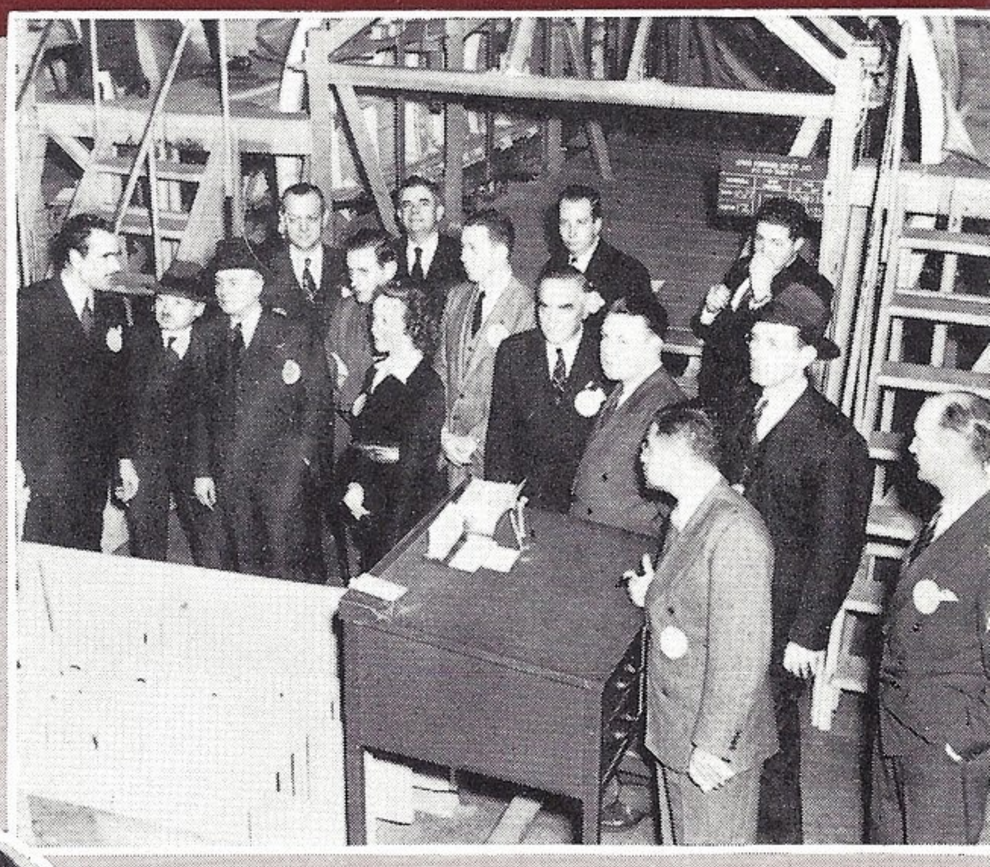
• Concluded on Page Thirty

Press Time at Plane Preview



Aviation writers view one phase of Commando construction at the St. Louis Press Party as pointed out by their escort, Marvin Parks. The visitors made a tour of the Plant in groups to see the various exhibits that had been arranged.

Another group at the unveiling of the commercial Commando mockup listen to an explanation by George A. Page, designer of its prototype. They saw wartime version of the Commando in actual production at the Plant.



Reading his own publication while seated at the navigator's desk enroute to St. Louis in C-46 that transported writers is William W. Dodge, Business Week.

Comfortable, completely equipped stewardess' quarters in the new peace-time Commando are given a trial by Charlene Grinter of TWA.

Listening to a description of the sky kitchenette in the new Commando by Hostess Jean Ronsick of St. Louis Plant are Robert Earle of Propeller Division (center) and Adrian W. Smith of the Airplane Division.

Deep in conversation after the departure from New York are Wesley W. Price of Saturday Evening Post (left) and Robert H. Wood of Aviation News. More than 35 writers attended affair at the St. Louis Plant.

"Diving" for olives during the trip are (left to right): William Winters of Air Trails; Melvin C. Krampf of United Press, and Robert N. Farr of Science Service. The writers were guests of management, St. Louis Plant.

Reading, taking things easy on the trip west from New York are (left to right): William Winters, Air Trails; Robert Mountsier, New York Sun; Hilton Hornaday, Buffalo Evening News; Guy Shipler, Time Magazine. Leading aviation writers were present to view full-size mockup of the new CW-20 Commando.

MORE than 35 aviation writers from the nation's leading magazines, newspapers and press associations helped lift the curtain on the post-war commercial airliner, the Curtiss-Wright CW-20E Commando, when they attended the press party at the St. Louis Plant.

Reported one writer: "The world's largest and fastest two-motored luxury airliner, developed by three years of war service, is ready to go into post-war service — and in a big way."

The aviation writers, guests of the management of the St. Louis Plant for the press preview Oct. 23 to 25, saw a full-scale mock-up of the peace-time version of the Commando that has been proven in war and that has achieved a noteworthy record flying the treacherous route across the Himalayan Hump from India into China.

They saw the model of the plane designed to supply the needs of the medium-range airline traffic market, it having been established by a Curtiss-Wright survey that 85 percent of the airlines' business in this country consists of trips not exceeding 500 miles.

Writers from the East were transported to St. Louis in one of the huge C-46 Commandos, and upon arrival at Lambert Field in that city were greeted by Curtiss-Wright executives.

Augmented on Tuesday, Oct. 24 by writers from the Middle West and South, the group met in the executive dining room of the St. Louis Plant where they were addressed by Burdette S. Wright, Curtiss-Wright Corporation Vice President, and C. W. France, Corporation Vice President and General Manager of the St. Louis Plant.

The guests saw a demonstration of ground to plane radio communication and the maneuverability of the Commando; they saw the wartime version of the Commando in actual production; the full-scale mockup of the cabin of the luxury airplane; the new nose; battery installation and the baggage compartment. Other displays were supplied by Wright Aeronautical and the Propeller Division — a Wright Cyclone 18 engine and two giant propellers, one a movable unit to show blade featuring.

They received press packets containing a set of photographs of the Commando and news stories and special data concerning the airplane, and they were provided with a press room where many of them prepared stories for their publications and news services.

The writers were feted at receptions and at dinners in the Jefferson Hotel, and special entertainment was provided.

Writers who attended the Press Preview, and the publications they represent, follow: Paul Marcus, Look Magazine; Wesley W. Price, Saturday Evening Post; Sidney Fish, New York Journal of Commerce; Robert Mountsier, New York Sun; David A. Stein, NEA; Gareth Muchmore, Associated Press; Melvin C. Krampf, United Press.

Robert Farr, Science Service; Guy Shipler, Time Magazine; Milton Van Slyck, Newsweek; William W. Dodge, Business Week; Robert Wood and William Key, Aviation News; Clifford Guest, American Aviation; Hilton Hornaday, Buffalo Evening News; James Crossley, Columbus Citizen.

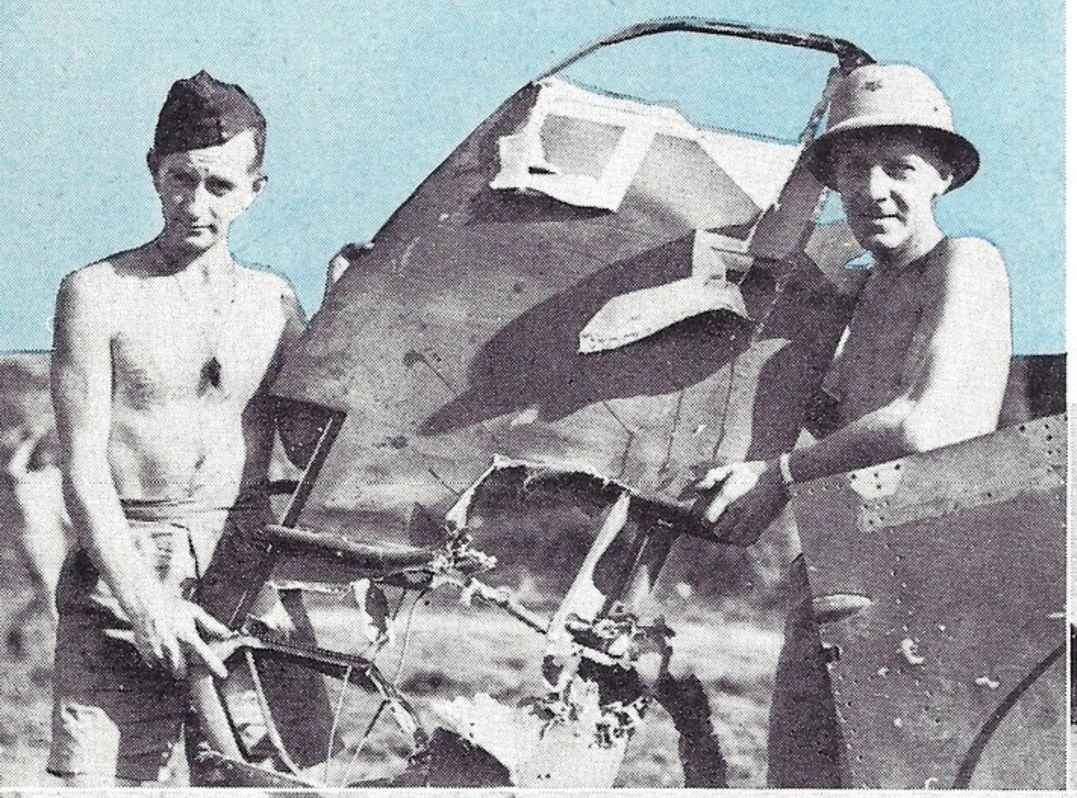
John Jones, Columbus Dispatch; Danny Flavin, Ohio State Journal; Jasper Hodson, Louisville Times; George Haddaway, Southern Flight Magazine; Otto Smucker, Chicago Sun; James Meigs, American Weekly; Mike Froelich, Industrial Aviation; William Brons, Chicago Journal of Commerce.

Maurice Roddy, Chicago Times Syndicate; Merrill Meigs, Chicago Herald-American; John Mirt, Chicago Daily News; J. D. Bowersock, Kansas City Star; John Foster, Jr., Aviation Magazine; George Herrick, Air Transport; Sam Armstrong, St. Louis Post-Dispatch; James B. Woods, St. Louis Globe-Democrat; Aaron Benesch, St. Louis Star-Times; Dave Park, International News Service; William Winters, Air Trails; Charles Hawkins, Phil Andrews Publishing Company; and Bruce Knapp, Aviation Maintenance.

Airline stewardesses who were guests were: Doris Phillips, American Airlines; Charlene Grinter, TWA; Doris Rogers, Chicago & Southern; Arlowin Wall, Mid-Continent, and Carol Everett, Eastern.

Standing in front of a Curtiss C-46, are the aviation writers from throughout the country and Curtiss-Wright officials who attended the press preview at the St. Louis Plant of the full-scale mock-up of the new commercial version of the Commando. Writers from the East made the trip to St. Louis in the C-46.

Fightin' P-40 *Round Trip*



Hard-hitting Curtiss P-40s have been fighting the Axis ever since the war started, and they'll be in there battling the enemy when the war ends.

The photographs on this page, showing P-40s in action in the Pacific, tell the story of a Royal New Zealand Air Force squadron from the time it is "briefed" until it returns to its base.

New Zealand P-40 pilots receive their instructions (left, center) before departing on a mission against the Japs, their target pointed out on a map. They rush out to their P-40s, wait for the take-off signal (immediately below).

Then comes the attack. Down they dive, dropping a stick of bombs on Japanese hutmets (right, center). Notice the craters on the airstrip produced from previous bombings.

Some planes get hit, but the rugged P-40s can take it. One New Zealand P-40 pilot returned to the base (top, left) with his tail unit badly damaged by the Japs.

The Kittyhawks back (bottom) and their mission a success, they are wheeled into a fighter revetment to be serviced.

HAZARDOUS JOURNEY

• Continued from Page Fifteen

In April, I was assigned to a new base in India which had been recently taken over from the RAF. By now new pilots were streaming in from the States daily and our job was to train these youngsters, the majority of whom had had less than 400 hours of flying time piloting a new batch of airplanes fresh from the Curtiss plant at Buffalo — the C-46 Commando.

We knew time was important and that there had been no time to give the Commando the necessary service-testing. It had to take its medicine the hard way — in action. The Curtiss C-46 has undergone the most vigorous tests ever given a transport airplane.

Naturally, with a new type plane with which none of us were familiar we ran into a number of difficulties. But these bugs have now been ironed out and the Commando today is one of the finest transport planes in the world.

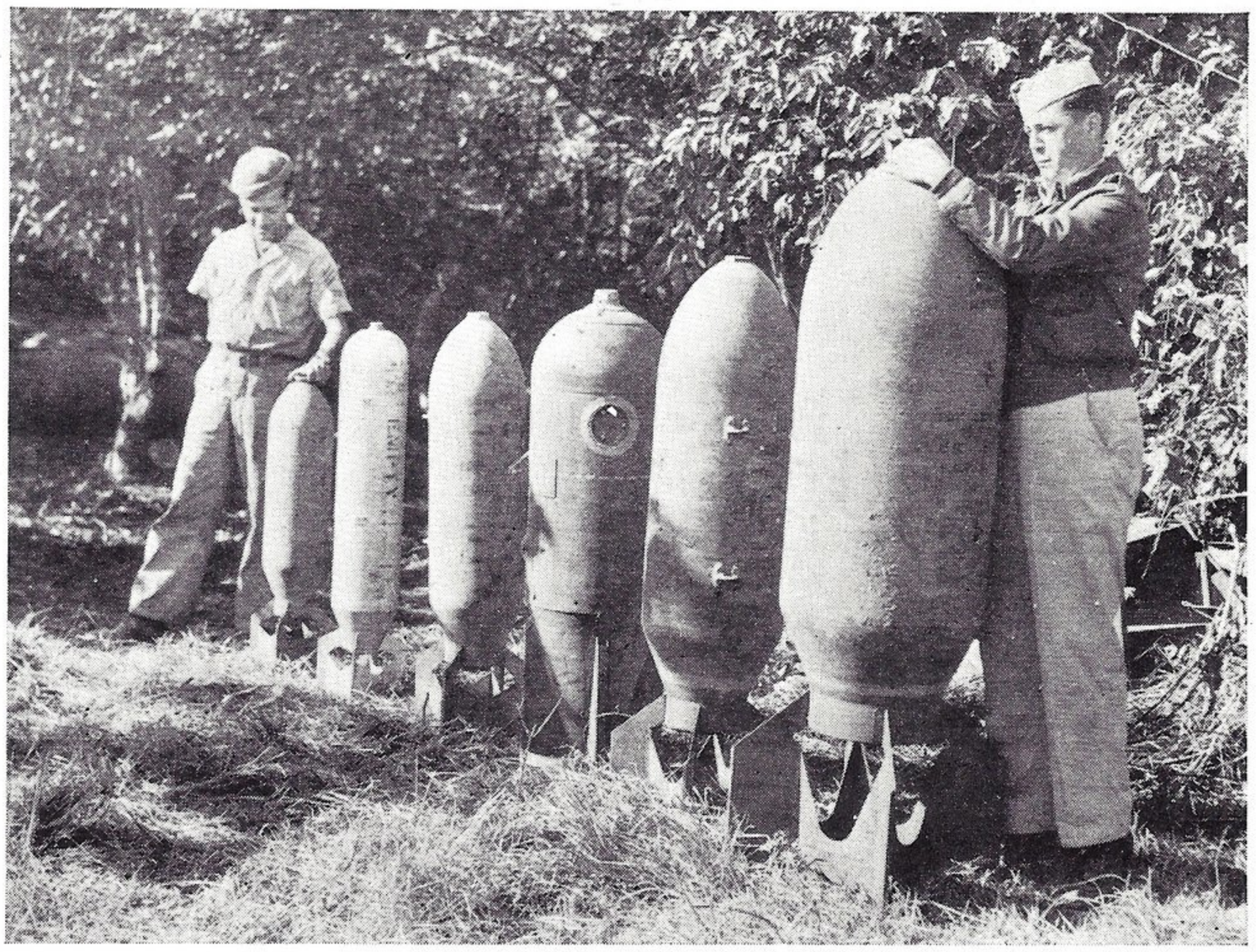
I can say that had it been any other airplane than the C-46 our losses during those first few weeks would have been far greater than we suffered over Jap infested territory.

Within the short span of two years, the Commando has achieved a standard which in peacetime would have taken many more. Its sturdy construction and excellent stall characteristics permit the plane to stand any kind of a severe test through which aircraft the size of the Commando can be put. On one occasion, one of the pilots of my squadron spun a fully loaded C-46 (50,000 pounds gross) 9,500 feet in a severe thunderstorm, the air speed registering well over 400 mph., and managed to right the huge ship in time to avoid disaster. The bulkheads were bent and twisted; the wings of the plane were buckled, but they stayed on.

I have never flown a plane with better stall characteristics. You can pull the power off, with landing gear flaps down, roll the stabilizer all the way back, take your hands off the control and the airplane flies by itself. You just can't make the Commando fall on its wing. All that will happen to the plane is that the nose will drop until it reaches approximately 80 mph., then repeats the process.

With the arrival of the C-46 in the India-China theatre, our supply quotas were raised considerably and soon thereafter we were carrying more supplies over the aerial Burma Road than had ever been carried by the overland route.

Because of its unexcelled war record and the many major improvements which have been incorporated in the latest model of the C-46, the future of the Commando as an airline transport is a bright one. The Curtiss Commando can carry a large load of passengers and cargo economically, comfortably and safely.



Warhawks Carry 100 to 1,000 Pound Bombs

It has often been said that Curtiss P-40s are deadly when they're battling the Axis!

The photograph (above) bears that out for the bombs shown are the various types that are carried and dropped by P-40 Warhawks. They range in size from 100 pounders to 1,000 pounders.

The bombs were lined up at an advanced 10th Air Force base in India. Between the soldiers, from the left, are two different types of 100 pound incendiaries, 250 and 350 pound (land mines) depth charges, a 500 pounder and the 1,000 pound variety.

These bombs carried by speedy P-40s add to the three 50 mm. guns in each wing to make the Warhawks deadlier than ever.

The versatile Warhawk has carried as much as 2,000 pounds of bombs into battle — a 1,000 pound bomb slung under the fuselage and two 500 pound bombs, one in each wing bomb shackle.

Flying Foes Meet — As Friends

It was just a little more than 12 months ago that an Australian pilot of a hard-hitting Curtiss P-40 Kittyhawk and an Italian flier clashed in a dog-fight high over Milazzo, in Sicily.

A few days ago, according to a dispatch, those two same pilots met again — this time as friends — somewhere in Italy and talked over the tactics they used in that sky battle.

The Australian is Group Capt. Brian Eaton, DSO, DFC, who was recently appointed to command a Desert Air Force fighter-bomber wing in which he formerly led a squadron, and the Italian pilot is now flying American-built fighters with the Royal Air Force against his country's former German allies.

It was in August last year that Group Capt. Eaton was leading his Kittyhawk Squadron when it ran into 25 enemy fighters over Milazzo.

As eight of the enemy aircraft started to battle it out with the Kittyhawks, Eaton was pitted against the young Italian. During the engagement, one of the Axis planes was shot down and three of the foe aircraft were damaged.

The enemy airplanes soon broke off the engagement and streaked for home, and all of the Kittyhawks returned to their base safely.

FLYING AMBULANCES

By Staff Sergeant John T. Kirby

U. S. Marine Corps Combat Correspondent

Peleliu, Palau Islands (Delayed)—In daily mass flights from the newly-captured airstrip here, giant Curtiss R5C Commando transport planes of the Second Marine Air Wing evacuated hundreds of men wounded in the three weeks of fighting for this strategic island.

Three of the hospital transports, headed by the plane piloted by Capt. Lynn N. Kelso, of Terre Haute, Ind., roared down the airstrip here on a typical morning bearing casualties to a rear base naval hospital.

Work of loading the litter patients — 20 men to a plane — was begun at dawn under the supervision of Navy Commander Winslow T. Tompkins, of Philadelphia, senior flight surgeon of the Second Wing.

"These boys take to plane rides with plenty of spirit," admitted Commander Tompkins who directed the formation of this newest station in Pacific air evacuation.

"We make certain the patients are pretty strong before we put them aboard a plane. But they're all anxious to go out by air — for some of them it's their first time up."

According to the Marine pilots, their charges are ideal passengers and require almost no attention during the trip.

"In fact," said one pilot, "they're a lot less trouble than many of the passengers we carry regularly — most of them sleep during the whole trip."

At Peleliu, Saipan, Tinian — Curtiss R5C Commandos were on the job early to evacuate the wounded; to bring in parts for planes, mail, high ranking officers. First Marine Commando to land at Saipan's Aslito Airfield is shown coming in on the runway as men turn to watch with interest.
U. S. Marine Corps and U. S. Air Forces Photos

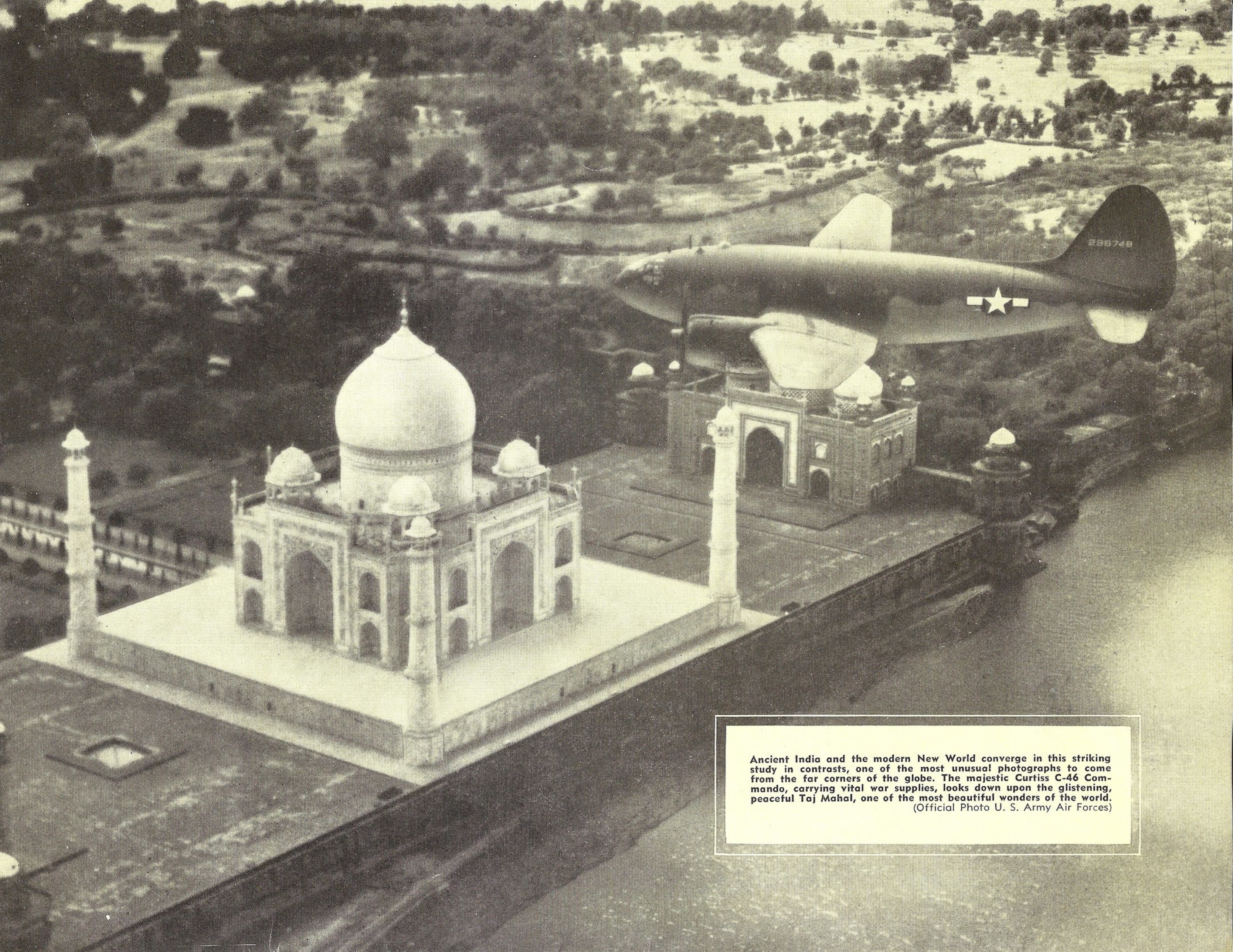
Marines wounded in the battle for Tinian are shown being loaded aboard a Fourth Marine Air Wing Commando for evacuation to base hospitals. The photograph, made from the cockpit of the Commando, shows wrecked Japanese installations and planes scattered along the edge of the captured airstrip.

When air transportation was available to evacuate Marines of the First Division wounded at Peleliu, Maj. Gen. William H. Rupertus, Commanding General of the unit, was on hand to see the men on their way. He chats with two wounded men on an ambulance jeep prior to loading of the Commando.

The wounded get priority. First cargo of a Fourth Marine Air Wing Curtiss Commando returning from embattled Tinian Island in the Marianas is a load of wounded Marines. For some it's the first time in an airplane but they're all anxious, it is reported, to go out to the base hospitals by air.

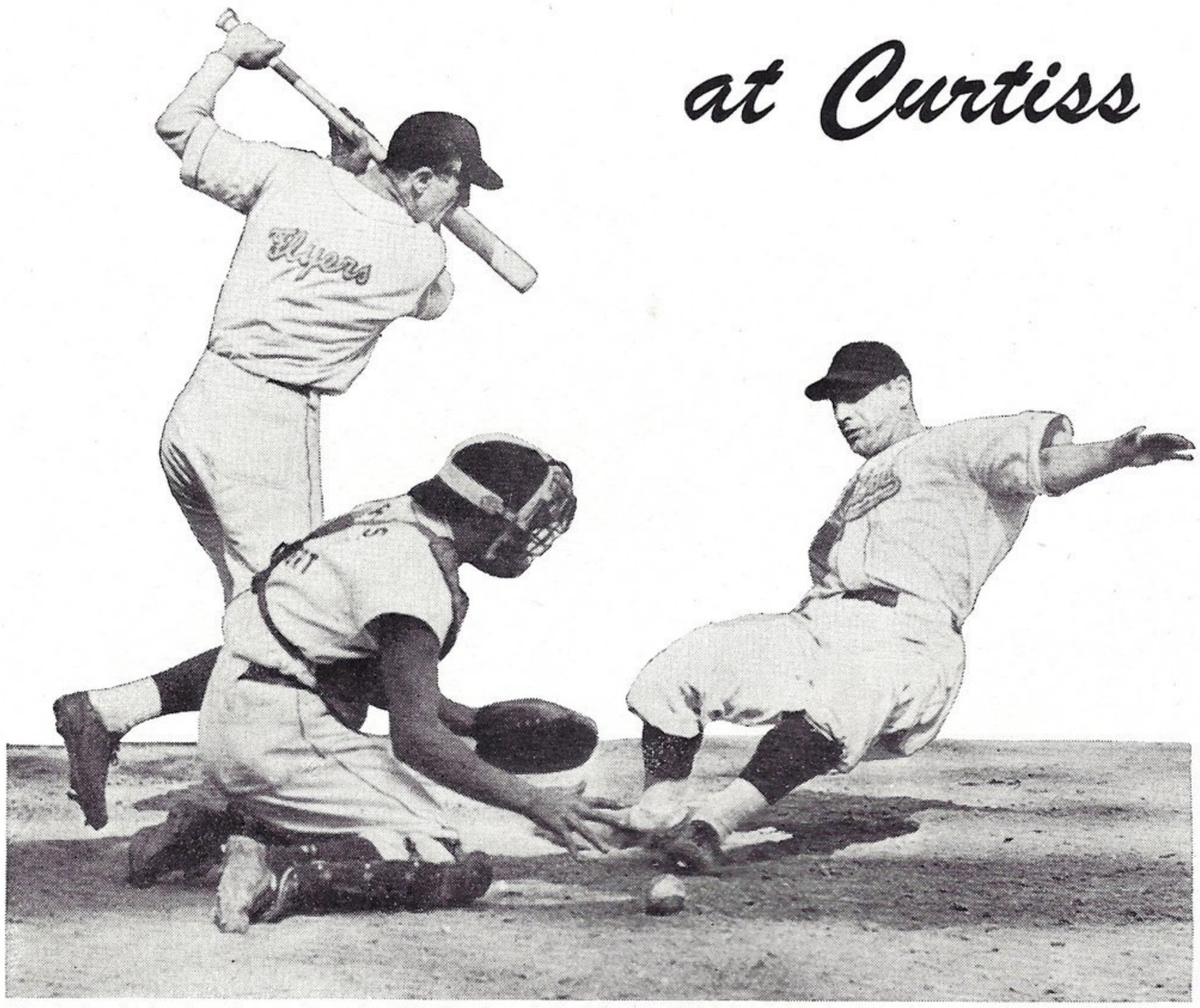
From the front lines at Peleliu, a Marine with minor gunshot wounds is taken aboard a Commando of the Second Marine Air Wing, headed for rear base hospitals. This work being done by Commandos is just another example of the vitally important role they're playing in the Pacific war.

Hundreds of wounded were evacuated by Commandos in daily mass flights, 20 men to a plane. These Marines, wounded in the fierce fighting for Peleliu, are shown in a Commando of the Second Marine Air Wing being evacuated to hospitals. The wounded, according to Marine pilots, are ideal passengers.



Ancient India and the modern New World converge in this striking study in contrasts, one of the most unusual photographs to come from the far corners of the globe. The majestic Curtiss C-46 Commando, carrying vital war supplies, looks down upon the glistening, peaceful Taj Mahal, one of the most beautiful wonders of the world.
(Official Photo U. S. Army Air Forces)

SPORTS ACTIVITIES *at Curtiss*



Typical of the heads-up brand of ball played by Curtiss-Wright teams this past season is the above play, "frozen" by Photographer Frank Foye of Buffalo Plant. Curtiss players from the Buffalo-Kenmore Plants team figuring in the play are Whitey Lamendola, sliding home, and Leo Hertel, the batter.

BASEBALL and softball teams in Airplane Division Plants captured pennants during the summer season to highlight an active sports program in the Kenmore, Buffalo, St. Louis, Louisville and Columbus facilities.

Victorious in 31 of 36 league games against the outstanding amateur clubs in the area, the Curtiss-Wright Flyers baseball team, representing the Kenmore and Buffalo Plants, ended the 1944 season undisputed champions of both the important Municipal Association (Class AA) and the Electric Twilight League.

The St. Louis Plant Curtiss-Wright Flyers won a second consecutive pennant in the St. Louis War Plant League with a loss of only one game in two seasons.

In Louisville, a team composed of janitorial department workers won the Kentucky State softball championship.

In capturing the Municipal title, which in Western New York is the sandlot equivalent of the World Series, the Buffalo-Kenmore Flyers went through a 20-week campaign in which they rang up 17 victories against 3 defeats, including a four-game post-season series with the victors of a rival Double A circuit, while in their twilight games they were upended only twice while notching 14 triumphs.

No other Buffalo amateur ball club in recent years ever reached the heights attained by the Flyers in late June when, before close to 10,000 fans, they defeated the defending champions 1-0 in a 10-inning game in which the losers were held hitless as well as runless.

Lew Fauth, a youth just out of high school and a new member of the Curtiss family (Government Stores at Plant 2), turned in such an impressive pitching performance that within a week he was signed to a contract by the Buffalo Bisons of the International League and given a $1,000 bonus.

Composing the Flyers were: Frank Lang and Ty Smith, co-managers; Pitchers Bill Boehringer, Casey Demski, Vince Clabeaux, Fauth, Jack Austin, and Joe Nasca; Catchers Joe Hertel and Jack Rochevot; Infielders Charley Lamendola, Benny Mankowski, Danny Green, Cy Williams, and Joe Manganello; Outfielders Smith, Leo Hertel, Herb Kam and Hank Nietopski.

Approximately 2,000 employees in the Buffalo and Kenmore Plants participated in the summer sports program, which included softball leagues for both men and women on all shifts; horse shoe pitching; bait casting, and a track and field meet. In the spring and fall, the Plants also have a soccer team.

The St. Louis Plant Flyers played heads-up ball all season to annex their second consecutive pennant in the St. Louis War Plant League.

Roster of the champions included: Everett Johnson, pitcher; Gene DeSalme, catcher; George Silvey (manager), first base; Walter Knickmeyer, second base; Sol Katzman, third base; Ken Brockman, shortstop; Mel Koch, right field and first base; Bern Leahy, left field; Burt Loddeke, center field; Gene Thompson, outfield; Henry Knickmeyer, catcher; Charles Love and Bill Goff, pitchers; Ronald Folger, outfield, and Walter Jensen, pitcher and outfield.

A softball schedule participated in by 100 company teams was another highlight of the St. Louis program. The 16-week season included more than 1,000 games played in inter-plant schedules.

More than 40 sports activities were sponsored by the St. Louis Plant Recreation Department during the summer in a program designed to accommodate the three wartime shifts in an around-the-clock schedule.

At Louisville, the softball team, the Aircrafters, challenged and defeated the Lexington Sluggers, 14 to 2, for the State title, after finishing in top place in a league of teams representing war plants and organizations in and around Louisville. The Aircrafters were undefeated during the season. Their record shows their pitcher, Melvin Smith, accounted for four no-run, no-hit games.

Members of the team included: Durand Tinker, first base; Worden Dorsey, third base; Arthur Smith, right field; Chester Weeden, catcher; William Roberts, shortstop; Marion Dickerson, center field; James Johnson, second base; Wood Taylor, short fielder; Robert Simpson, left field; Smith, pitcher; William Radcliffe, coach; David Duncan, right field; Robert Bartlett, catcher.

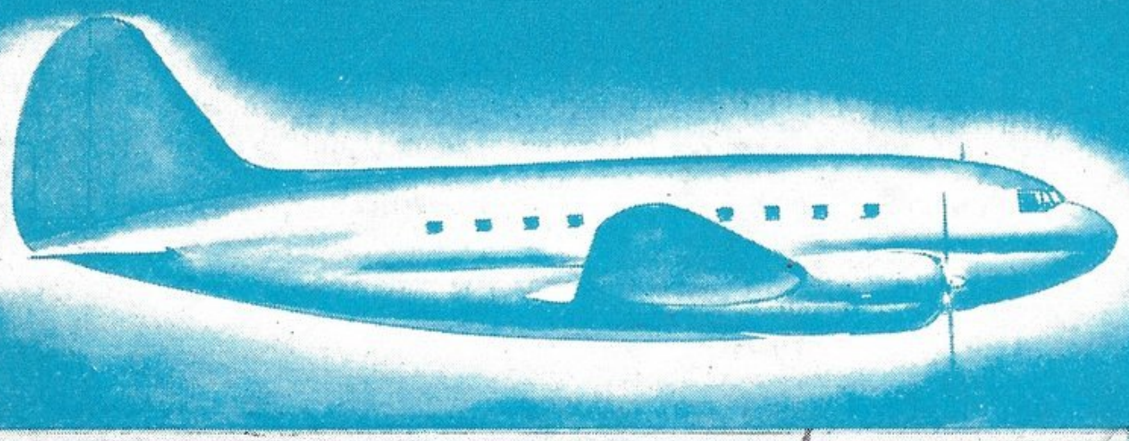
Louisville golfers won the Division championship with a score of 733, nudging out St. Louis, which reported a score of 748. Robert Hite, Louisville, shot the lowest score of the tournament, a cool 68.

The Commandos represented the Louisville plant in baseball, playing in a tri-city league. The team played a sparkling brand of baseball throughout the season, winning 8 of 11 games played.

Curtiss-Columbus had by far its biggest coordinated recreation program of its history this past summer. A score of sports found thousands of Helldiver-builders participating on all three shifts.

Biggest sport was softball, with 86 teams and 1,200 players taking part. Summer bowling, swimming, archery, bait and fly casting, tennis, golf, rifle shooting and other recreation interested thousands, as in other Division Plants.

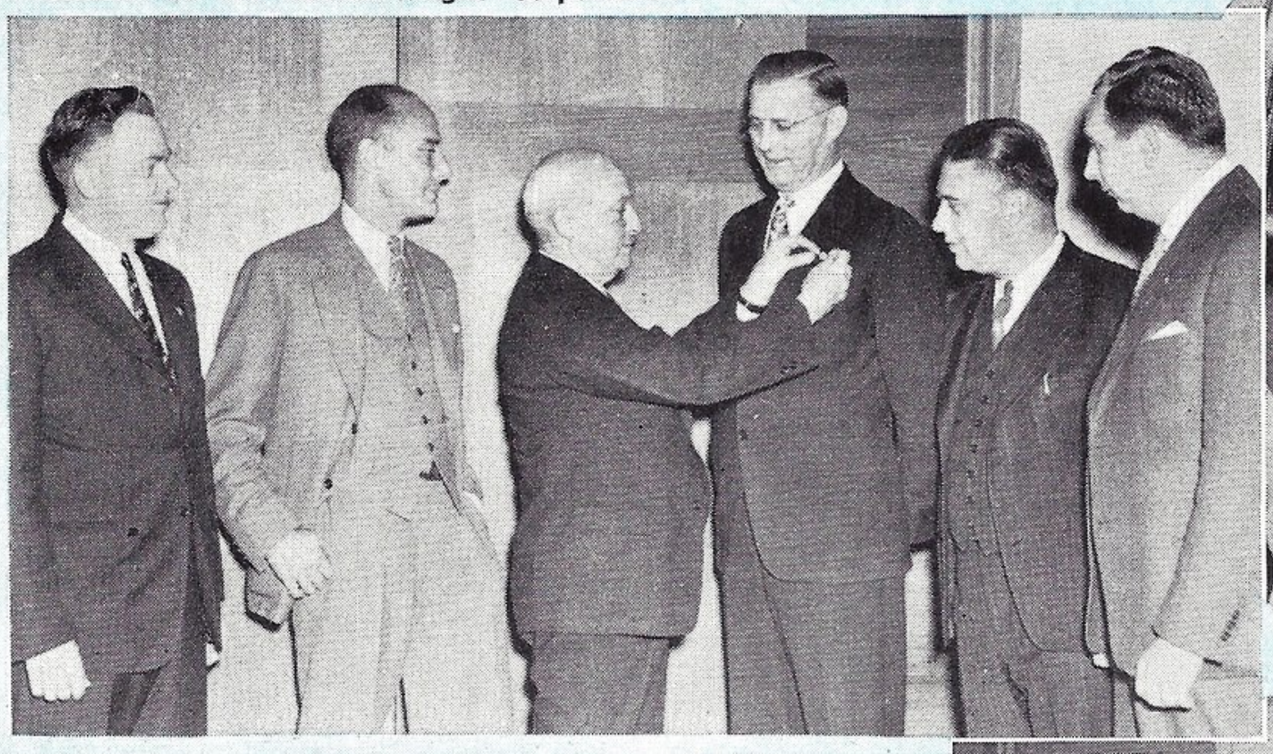
Boxing has become a popular sport at Camp Curtissair where a ring jamboree was staged recently that lacked nothing for fun and thrills.



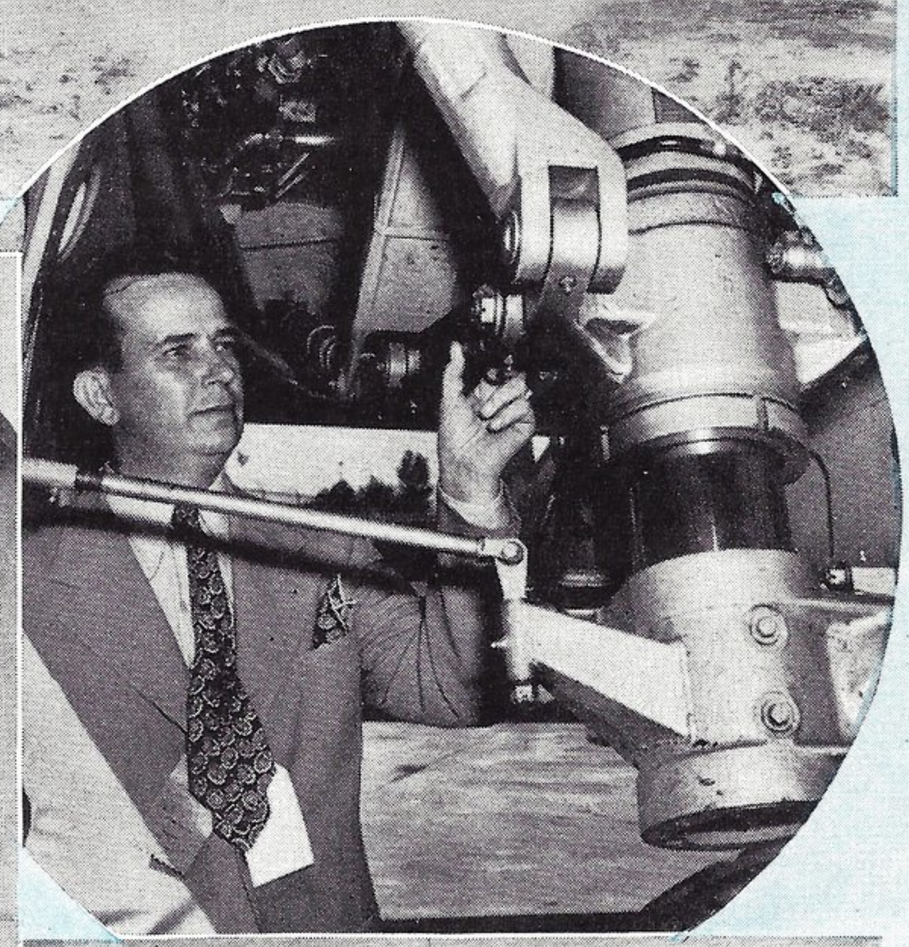
PEOPLE

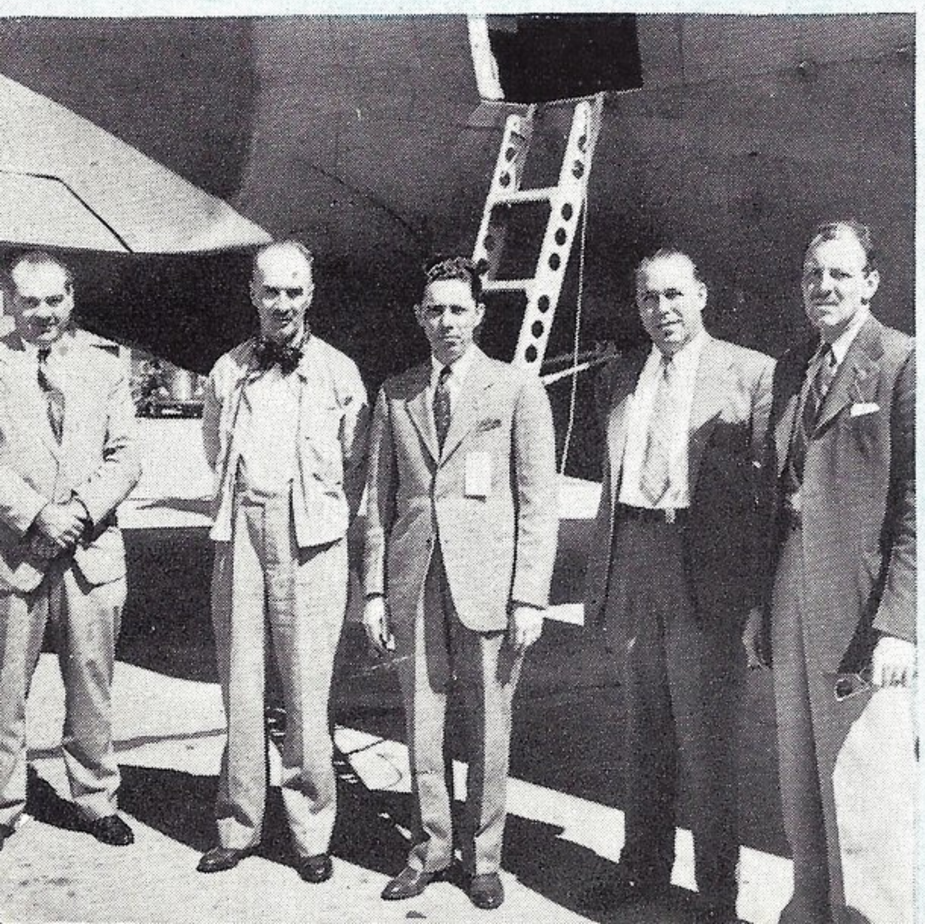
Among those attending ceremonies (above) at LaGuardia Field celebrating National Airline's recent inauguration of service between Florida, New Orleans and New York are (left to right): William J. Crosswell, Airplane Division Director of Contracts; J. T. Wetzel, Wright Aeronautical Service Division Manager; G. T. Baker, NAL president; Mrs. Baker; R. E. Johnson, Director of Marketing of the Wright Aeronautical Corporation; and G. W. Vaughan, President of the Curtiss-Wright Corporation.

Forty-one Curtiss planes, purchased by employees in the Buffalo and Kenmore Plants with War Bonds during the Fifth War Loan Drive, are shown (below) lined up at the Buffalo Airport during the dedication ceremonies. Included among the ships destined to help defeat the Axis were 12 C-46 Commandos and 29 P-40 Warhawks. Forty-one employees from the two Plants, representing their fellow workers, christened the planes.

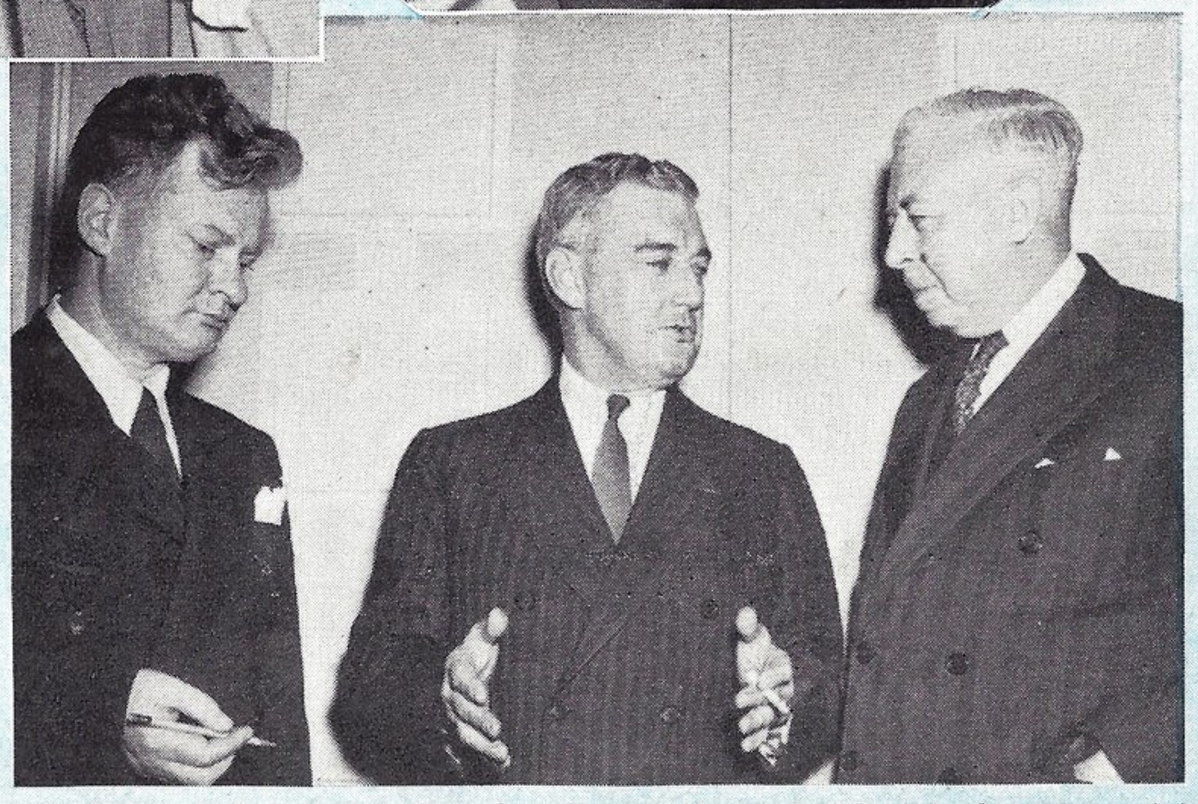


Participating in recent pin party for Buffalo Plant 100% Production Soldiers (right) were (left to right): R. N. Blaylock, F. N. Farrar, R. H. Puffer, presenting pin to Harry Shaw; Lou Mayer and C. H. Augspurger.





Shown (left) after a ride in a Commando at St. Louis are (left to right): R. L. Anderson of Chicago and Southern Airlines; C. R. Wassal, C-W test pilot; J. A. Young, Chicago and Southern; C. K. Travis, Curtiss-Wright; and Reed Knight of C. & S.

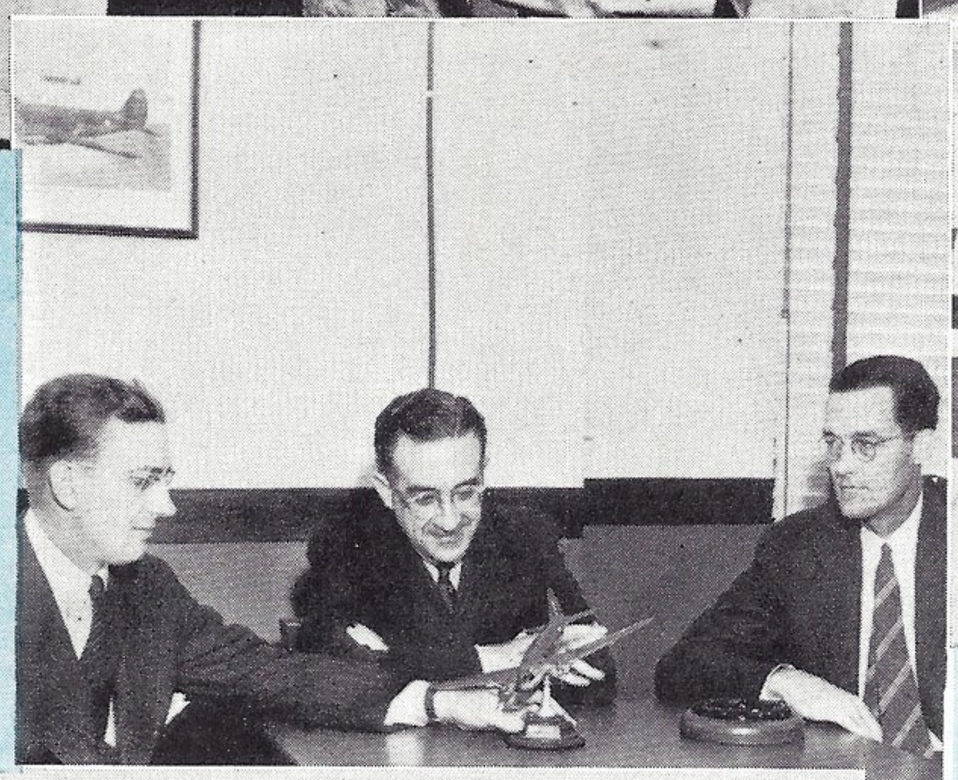


Highlights of his trip aboard an aircraft carrier in the Pacific are related (above) by Burdette S. Wright, Curtiss-Wright Corporation Vice President (center), to Stephen Feeley of the Buffalo Courier-Express (left) and James L. Wright, Buffalo Evening News, at a press party held in Washington, Friday, October 20.

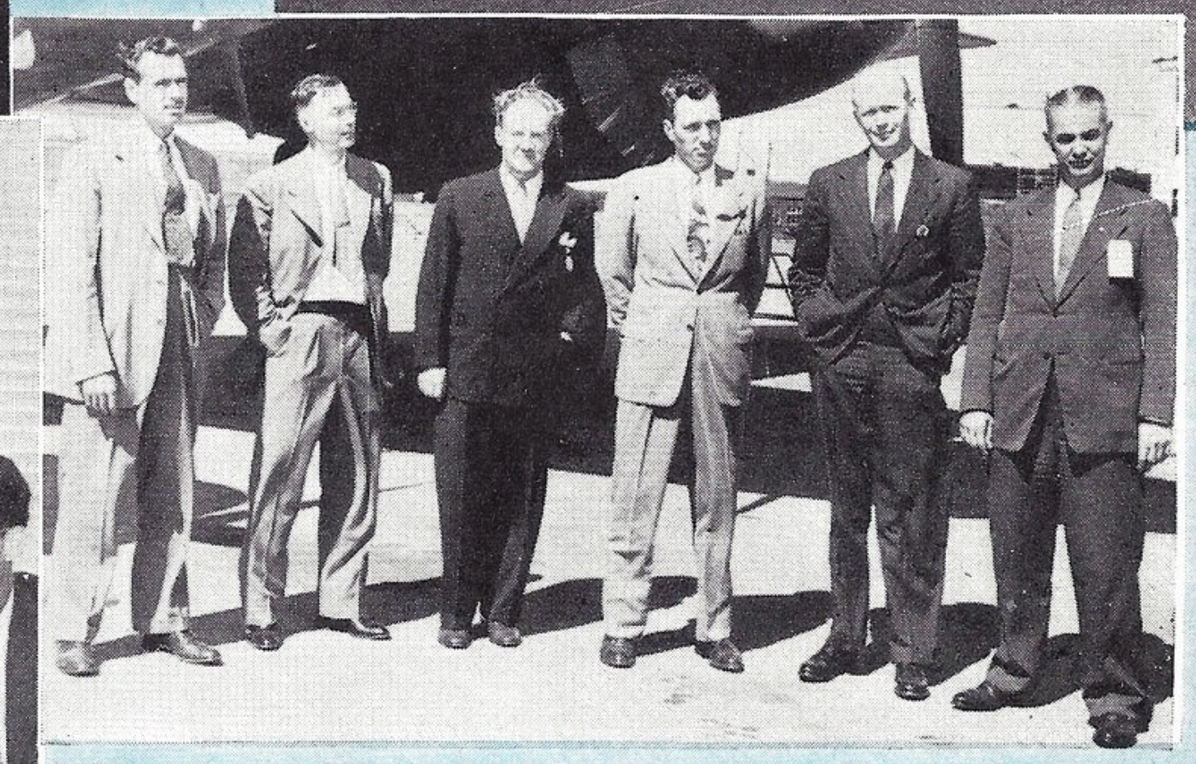
PLACES PLANES

The U. S. Navy in action against the Japanese was observed by Burdette S. Wright, Vice President of the Curtiss-Wright Corporation, during a two-months' cruise of the Pacific battle areas as guest of the Navy (below). Wright is shown (center) with Vice Admiral Marc A. Mitscher, USN, (left) and Raymond C. Blaylock, chief engineer at Curtiss-Columbus, aboard an aircraft carrier of the U. S. fleet. (Navy Photo.)

Shown (right) at Research Laboratory are (front, left to right): Dr. M. J. Martin, National Defense Research Council; Lt. R. S. Taylor, the Bureau of Aeronautics; Carl L. Frederick. Back row: W.E. Scott, and Lt. G. V. Schliestett (right) of the Naval Air Experiment Station.

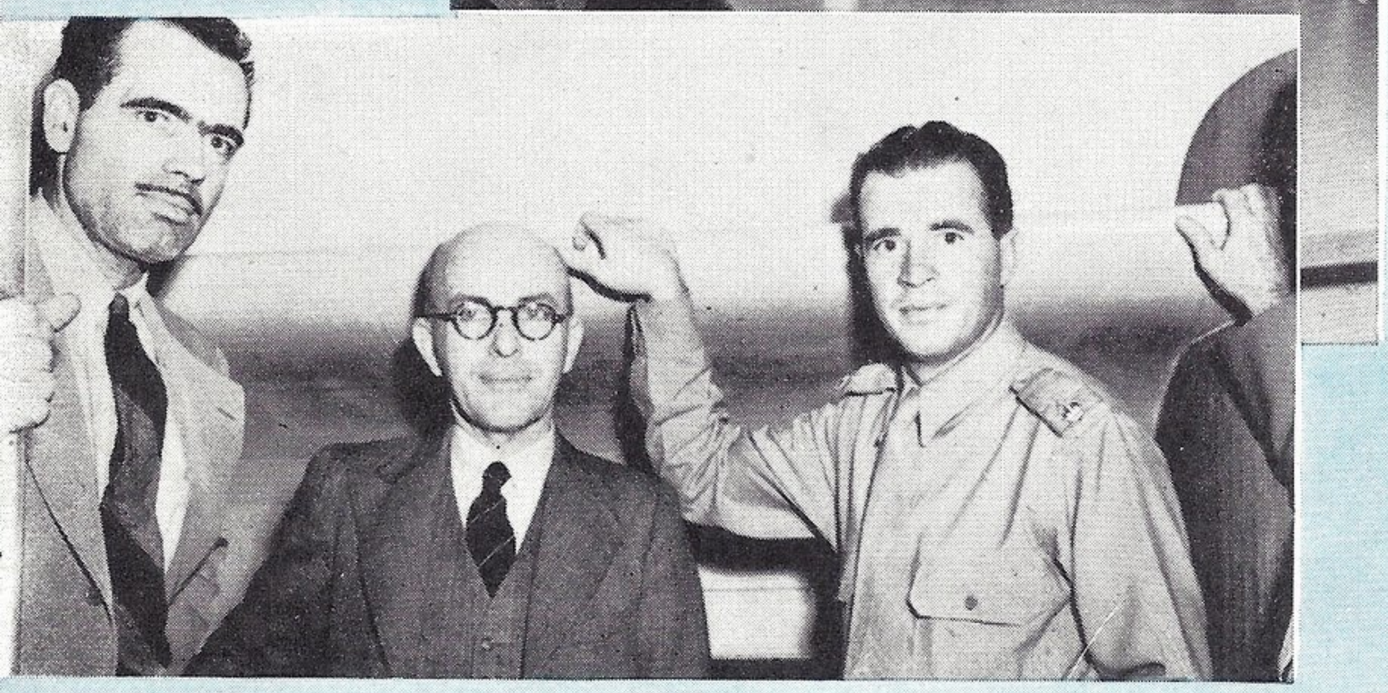


T. J. Tanner, Eastern Air Lines Superintendent of Maintenance (left), inspects the landing gear of the C-46 at the St. Louis Plant.



Three officials of Northwest Airlines were at the St. Louis Plant recently to view the Commando. Shown in picture above (left to right) are: Marvin J. Parks, Curtiss-Wright; K. O. Larson, Northwest's chief engineer; R. F. Wolford, Curtiss-Wright; Lloyd J. Beldon, Northwest's chief pilot; E. A. Warren, Curtiss-Wright, and K. R. Ferguson, vice-president of Northwest Airlines in charge of operations. They inspected the Curtiss C-46 Commando.

In picture (at left) are: Raul Barrios Ordonez (center), sales representative for Curtiss-Wright Export Company in Lima, Peru, recent Kenmore Plant visitor, shown conferring with Larry W. Botts, Contracts Liaison Representative (right) and William P. Kennedy, Assistant Contracts Manager.



Two representatives of South African Airways were recent visitors at St. Louis Plant (above). Shown with Marvin J. Parks, (left), are Col. G. S. Leverton, assistant manager, and Maj. W. B. Scott, on leave as assistant Colonial air attache, Washington.

Navy officers from the Naval Air Station, Norfolk, Va., were recent visitors at the Research Laboratory. Shown grouped around table (right) are (left to right): Dr. Joseph Foa, Dr. C. C. Furnas, Director of Research; Henry Nagamatsu, Lt. W. E. Weaver, Lt. Comdr. G. T. Dudman, Capt. G. L. Compo, A. D. Palmer, Jr., Director of Public and Internal Relations, Airplane Division; Capt. A. R. Sanborn and Lt. F. Coyne.

Hitting the Jap in His Own Backyard

PROVIDING the bombing punch of the strong force of carrier planes slugging it out with the Japanese in the Pacific, are rugged, tireless Curtiss SB2C Helldivers, the "fist of the fleet."

Armed with new power — a pair of 20 millimeter fixed cannon — Helldivers played a major role in the Second Battle of the Philippine Sea recently in which the Japanese fleet suffered one of the worst defeats in Naval history. The powerful SB2Cs have achieved many notable records as they help U. S. land and sea forces drive ever closer to the Japanese homeland.

Japan's newest and fastest battleship, the Yamato, felt the vengance of the U. S. Navy in that Second Battle of the Philippine Sea when a Helldiver came in over it and dropped two bombs just forward of the No. 1 gun turret.

Leading a strike group of dive bombers, fighters and torpedo planes against a large force of Jap warships fleeing through Tablas Strait in the Philippines, Lt. Comdr. Arthur L. Downing, USNR, Helldiver pilot and executive officer of a Fleet Bomber Squadron, broke through intense anti-aircraft fire screening the Yamato.

Downing and Aviation Radioman Second Class John L. Carver dived in at exceptionally low altitude to drop their bombs, and then returned to their carrier safely. Downing is one of the Navy's most active combat pilots, and holds two Navy Crosses, the Presidential Unit Citation, the DFC and the Air Medal.

In that same Philippine battle, a Jap landing craft, a large one of its type, was disintegrated by a direct hit with a 1,000 pound bomb from an SB2C, and a Japanese heavy cruiser sustained serious damage as a result of persistent attacks by Wright Cyclone-powered Helldivers from Admiral William F. Halsey's Third Fleet.

Of the battle one correspondent wrote: "For five hours our carriers threw planes at the Japanese and by mid-day the enemy had more fight than he wanted. The Japanese warships began to backtrack to the north. Later we brought up carrier reinforcements and the rout was accelerated."

Hardly without rest, Helldivers, which are equipped with Curtiss Electric propellers, and other carrier planes continued their relentless attack on the Japs. During one weekend in the Manila area, Helldivers, Hellcats and Avengers destroyed 440 Jap planes, sank two enemy warships, probably sank a third and damaged eight others. They mauled other vessels, airfields, oil stores and installations.

When Gen. Douglas MacArthur's forces stormed onto Leyte, tough Helldivers helped support the invasion. Targets at Leyte, Cebu and Negros Islands were hit in widespread attacks by the SB2Cs and other carrier aircraft.

A cannon-firing Curtiss SB2C Helldiver comes "home to roost" after a strike at the Japs. The "fist of the fleet," Helldivers, like the one shown in this unusual photograph, having been dealing out terrific punches in the ever-growing attacks on the Japanese Navy, Nipponese-held territory, and enemy shipping.

Famed Squadron's Battle Story Told in New Book

THE men who first fought the Japs in Curtiss Helldiver dive bombers are the heroes of "Helldiver Squadron", a full-length book by Robert Olds, which has recently been published by Dodd, Mead & Co.

Described as "the most exciting, complete and authentic story about the pilots of the U. S. Navy's aircraft carriers yet to come out of the Pacific," the book is the battle story of Bombing Squadron 17, based aboard a giant new flat-top of the Essex class.

Led by Lt. Comdr. James E. (Moe) Vose, Bombing 17 was the first combat team to go into battle with Helldivers, being built at Curtiss-Columbus.

Bombing 17 went into action just as the war in the Pacific was shifting from the defensive to all-out offensive, and with their comrades in Hellcat fighters and Avenger torpedo planes, Moe Vose's outfit played a dramatic, smashing role driving the Japs back across the Pacific.

There was scarcely time for rest between actions. When the big flat-top was not making daring raids deep into enemy waters in the Southwest Pacific, its pilots were engaged in the great pile-driver assaults with famed Task Force 58 in the Central Pacific.

Rear Admiral John J. Ballentine, at the time captain of the flat-top (her name is withheld by censors) declared that:

"No crew of any carrier has accomplished more or seen more action in so short a space of time."

Olds tells in accurate and exciting detail exactly how carrier strikes were carried out on such varied targets as Tinian in the Marianas Islands and on the great Jap strongholds at Truk, Kavieng and Rabaul. He tells how the carrier planes supported the invasion of Tarawa. He relates the tragic accident in which Raymond Clapper, the famous newspaper columnist, was killed when two torpedo planes from the carrier collided during the invasion of Eniwetok in the Marshalls.

But "Helldiver Squadron" is a book about men as well as about Pacific Fleet warfare. Olds recounts the adventures of individual pilots as they dive-bomb their targets and then fight their way home again. He tells what they think about — how a blazing target looks to them as they plant their bombs on it — how it feels to have ack-ack rip into the cockpit — and perhaps into an arm or face. And in one chapter, he relates graphically just what happens when swarms of Jap bombers attack the carrier.

Scores of colorful characters crowd the pages. There is "Bags" Bagdanovich, the AGC, who went into action wearing a flaming red scarf and a black baseball cap, with a long unlit stogie clamped between his teeth. There is poker-faced "Moe" Vose, Helldiver squadron commander and veteran of the *Hornet* which went down in the battle of Santa Cruz. Among the pilots is "Nels" McGuire, cheerful Irishman who had once been the Charleston dance champion of greater St. Louis and who became self-appointed gloom-chaser of the Helldiver squadron. And Bob (Gedunk) Friesz. "The Missouri boy with the flashing white teeth was strictly a killer. He loved to fight, and when he fought he was determined to get a hit. 'Gedunk' neither drank nor smoked. He had only two vices. One was 'gedunks', the one-man portions of what the carrier's ice cream machine turned out daily. His other weakness was Al Capp's comic strip, 'Li'l Abner' ".

When these pilots weren't bombing Japs, they relaxed as enthusiastically as they fought. "Helldiver Squadron" is sprinkled with anecdotes about their lighter moments — what they did to the PT boat skipper at Panama who belittled their carrier — what they did to the MP at Espiritu Santo who bawled them out for riding eight men in a jeep. Some played poker for high stakes and some made model airplanes, littering their cabins with glue and balsa wood.

Of special interest to men and women who helped produce the Helldiver is a chapter titled "The Taming of the Beast" which describes the training of the squadron and the story of the designing and building of the Helldivers.

"Helldiver Squadron" includes 59 drawings of the Helldiver pilots and other outstanding figures in the book, eight special target maps and 24 exclusive combat action photos. The book is priced at $3 at bookstores. It is offered at a substantial reduction to Curtiss-Wright employees.

SALUTE TO COURAGE

The courage and fortitude of fliers of World War II is characterized in this story about a Curtiss Kittybomber pilot, reprinted from the Egyptian Mail.

He was 21 — small, slight and fair. He had blue-gray eyes that twinkled and lit up his whole face when he laughed. He was always playing pranks. But he was intent on his job. Nothing deflected him from the task assigned to him and the job of bringing his aircraft back. It was so that he died.

HIS voice came nonchalantly over the radio and the whole squadron heard him say: "My leg has been pretty well shot off." So calm did that voice sound, so undisturbed and natural that they thought he meant the undercarriage leg of his plane. The squadron did not take much notice.

Knowing the pilot for what he was, knowing his skill with aircraft, his youth and his daring, they thought: "Oh, well, when it comes to landing, Casson will make it O.K."

And so the squadron headed for home, their job done and the destruction of their targets completed. And with them, flying his plane steadily and accurately, went Flight Sgt. Casson.

But it was not the leg of his aircraft that was shattered. It was his own leg. And as he sat there flying his machine Flight Sgt. Casson bled to death.

Casson was the leader of that squadron. He was 21 years old. He led them into battle and he led them home again.

The job had been like many others at that time — strafing enemy transport columns during the battle for Rome. A job that Kittybombers have to do so often.

They'd found the column and Casson's section had bombed it. And immediately they'd gone up above to act as top cover while a second strike did their bombing.

And then the Flight Sergeant went down again to do some strafing.

Nobody saw him get hit and nobody had a hint that his plane had run into trouble. Only later came his voice over the R/T, that calm voice: "My leg . . ."

But in that plane the pilot bled to death. Casson's right thigh was shattered by a shell. His right arm was out of action. There were wounds in his left arm, and in his left leg.

But he kept flying. He was leader of that squadron and they had to get home.

For 15 minutes they flew over enemy lines and away south across the mountains until they could see their own airfield.

But the flight was not over yet. On the airfield were more Kittybombers lined up to take off on a mission. It meant staying up until they were away.

Casson waited. He watched those planes take off. He might have asked for an emergency landing. But he did not.

Permission came at last for him to go in. As he touched down his aircraft slewed violently round across the runway. The aircrew got Casson out from that plane. They had run hard toward it for they knew something was wrong. They found Casson unconscious. In the operating tent they took his leg off.

They gave him three blood transfusions. But Casson died within a few hours.

CW-20—ANSWER FOR THE AIRLINES

• Continued from Page Seventeen

greatest question mark in the planning of many airlines, concerns the action that the Civil Aeronautics Board will take in granting them new routes. In some cases, a CAB decision could make a difference between the purchase of 15-passenger and 50-passenger equipment.

To check further on quantity and types, the manufacturer must undertake an independent market survey, going back to the fundamental basis of air transport demands to study potential traffic that may be developed at various rates, under various conditions of operation, giving consideration to speed of service, frequency of service, number of cities served, kind of equipment that will be utilized, and numerous other factors.

He must then break this total estimate down into estimates of the quantity of each type of equipment required to carry this total traffic. This may be accomplished by analyzing the flow of present air and ground traffic. Travel habits must be studied to determine the size and principal characteristics of the aircraft required to handle the traffic. It appears, even after allowing for changes in future travel habits, that the bulk of equipment required domestically will be needed to carry passengers relatively short distances up to 500 or 600 miles.

With market studies completed, the manufacturer is in a position to decide what general type of equipment he should start to develop. This decision is based on many factors including the size of the market, the special qualifications of personnel or plant facilities for developing a specific type, the competition in each field, the investment involved in the development, and the time required before production deliveries can be made. Another very practical factor would be the interest of a specific airline in developing a specific airplane.

There are a number of factors which must be considered in the development of a transport airplane. Some of these are: safety, economy, performance, maintenance, utility, passenger appeal and regulatory factors.

When passengers are to be carried, there can be no compromise that reduces safety below the maximum. Structure must be arranged so that there is no possibility of loss of the airplane because one structural member fails. Materials must be selected with careful consideration to their action in the case of an accident.

Economy can be the basis for the rapid expansion of air transportation through low rates. Therefore, each type of transport must have the lowest operating cost per ton-mile attainable for its particular purpose. Under the Civil Aeronautics Regulations, for example, the licensing of transport aircraft is so set up that two engine airplanes like the Commando are more economical to operate on a short haul than are four engine airplanes of comparable design.

Performance is closely related to economy. In general, high speed attracts traffic. Speed becomes more important as distance increases. For very long distance operation, it may be desirable to run speed up to a maximum, paying penalties in operating economy resulting from a greater amount of fuel consumed. On short hauls, an appreciable speed difference results in a negligible time-saving, so that high speed is often not worth the additional cost.

An important element is maintainability. It depends on the utmost care being given to every detail of design to reduce the amount of time that an airplane must sit on the ground idle.

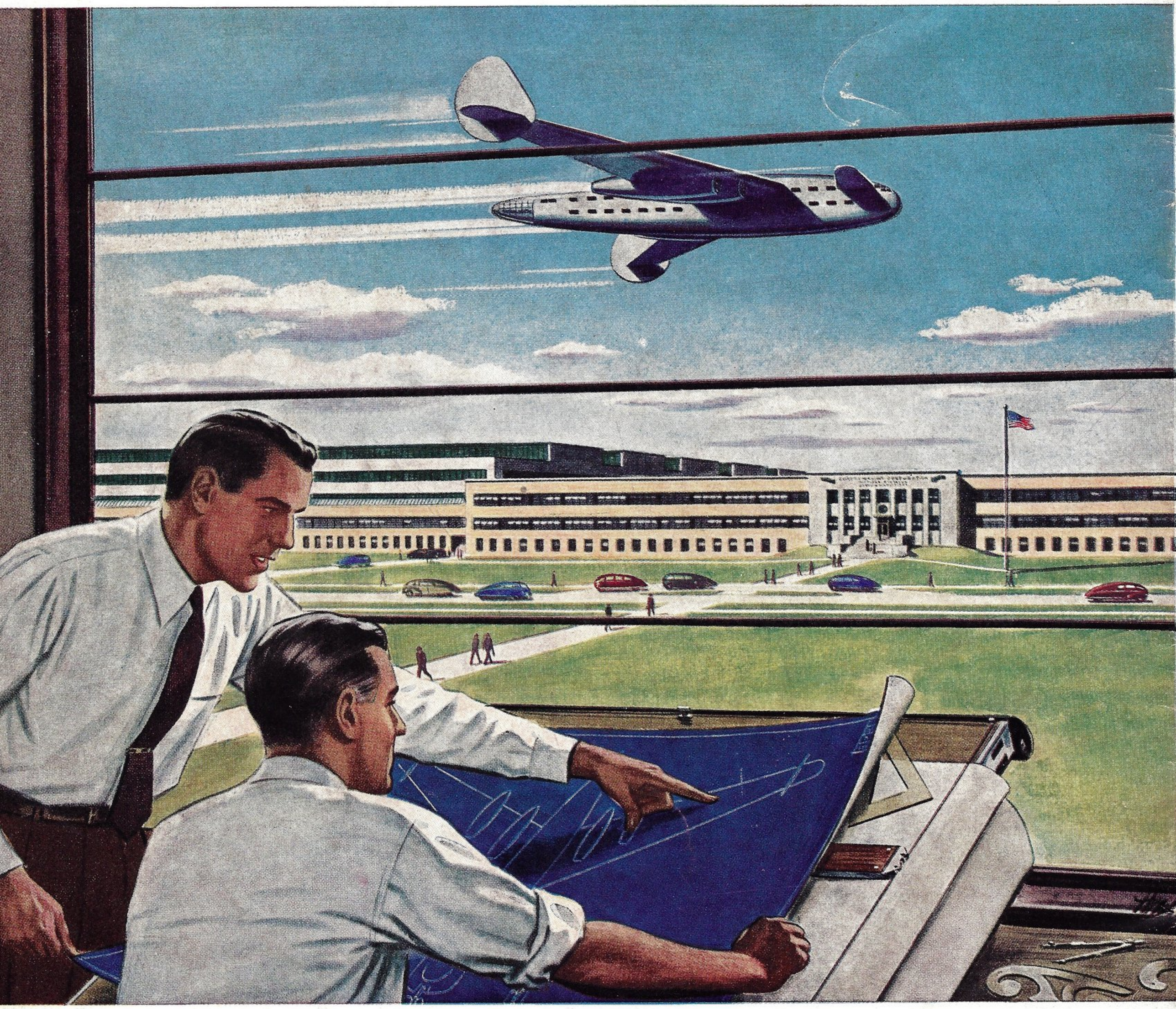
The designer must also consider passenger appeal. It is essential that a transport airplane be attractive. Many people feel that an ugly airplane is never a good airplane and there is considerable evidence to substantiate this. The airline passenger also expects a great deal of comfort.

The next design item is suitability to the operation. The airplane must be the right size, and this size must be determined by market studies and by conferences with the operators.

The final set of requirements that affect design are those set up by the Civil Aeronautics Board. Close coordination between the manufacturer and the administrative Civil Aeronautics Authority must be maintained at all times in order that the designer may be kept informed regarding the effect of new interpretations of the regulations on his specific design.

The stability and safety and size that is inherent in the Curtiss Commando is typified in this photograph of the plane's massive, shiny tail fin, product of the fine, careful workmanship that goes into every part of the huge airliner.

THAT OUR AIRCRAFT MIGHT *Master* THE ELEMENTS



WHAT'S THE PROBLEM? *700 mile speeds? 70° below zero cold? 50,000 foot altitudes?*

A huge wind tunnel to test large models at speeds exceeding 700 mph! A high altitude chamber that duplicates the pressure and paralyzing cold of the stratosphere! A torture chamber where hydraulic tension jacks twist, wrack and punish an airplane more severely than flying conditions ever could!

With these and many other instruments of aeronautical science "worth a king's ransom," Curtiss-Wright's development and experimental engineers are mutually working toward mastery of the elements. As each triumph in these laboratories reflects itself in the skies, our nation will trade and travel by air with ever-increasing safety, comfort and speed.

Look to the sky, America! Curtiss-Wright Corporation, Airplane Division, Buffalo, New York.

Another Contribution of

Curtiss-Wright

to the Advancement of Aviation

Member Aircraft War Production Council East Coast, Inc.